PURDUE UNIVERSITY
SEP 28 1936
LIBRARY

THE AMERICAN ENGINEER

OCTOBER, 1936

PUBLISHED BY
THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

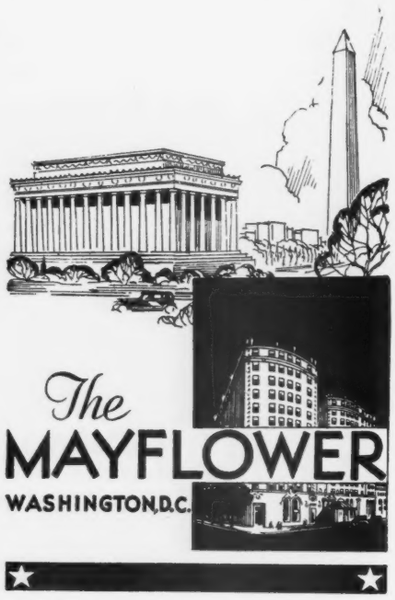
Early Reservations Suggested

By Your Hotel

MEMBERS of the NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS attending the Annual Convention on October 12 and 13, 1936, are assured of the utmost in service and comfort at *The Mayflower, Official Headquarters.*

Special Convention Rates Prevail for Choice Accommodations:

Single Rooms, $3.50, $4 and $5
Double Rooms (double bed) $5, $6 and $7
Double Rooms (twin beds) $6, $7, $8 and $9



R. L. POLLIO, Manager

"Listen, Mister. Maybe they didn't tell you much about Genuine Puddled Wrought Iron Pipe in school—but on the job we've learned that it's the only pipe for tough spots."

For complete information about Reading Pipe—write

READING IRON COMPANY
PHILADELPHIA

SCIENCE AND INVENTION HAVE NEVER FOUND A SATISFACTORY SUBSTITUTE FOR GENUINE PUDDLED WROUGHT IRON

THE AMERICAN ENGINEER

Published monthly in the interest of the
American People and the Engineering Profession by the
National Society of Professional Engineers

ARTHUR V. SHERIDAN.....Editor
WILLARD S. CONLON.....Business and Advertising Manager

Editorial Offices
2952 Grand Central Terminal, New York, N. Y.
Telephone: VAnderbilt 3-9152

Business and Advertising Offices
National Press Building, Washington, D. C.

Publishing and Distributing Offices
SCOTT PRINTING COMPANY, One Sherman Avenue, Jersey City, N. J.
Telephone: Webster 4-3420-1-2

VOLUME 6 | OCTOBER, 1936 | No. 10

CONTENTS

	Page
Officers, The National Society of Professional Engineers	4
Appraising Federal Relief	5
Registration of Engineers	6
A National Problem	7
A Rendezvous With Destiny	8
What Is Planning?	11
P. E. Trail Leads to Washington Oct. 12 and 13	12
Washington Calls	13
Convention Information	14
Program—Second Annual Convention	15
National Society Membership	16
An Appeal	17
Items of General Interest	18
State Activities Reported	19

The American Engineer assumes no responsibility for statements or opinions expressed by contributors whose names identify the source of the same.

Subscription Rates
$1.00 a year, in advance, to members of the National Society of Professional Engineers and its affiliated Societies.
$2.00 a year, in advance to non-members. Single copies, $0.25.
Entered as second-class matter January 29, 1935, at the post office at Jersey City, New Jersey, under the act of March 3, 1879.
For advertising rates, write G. C. Carothers, 441 Lexington Ave., New York City.

THE NATIONAL SOCIETY of PROFESSIONAL ENGINEERS

Headquarters
National Press Building
Washington, D. C.

OFFICERS

President
DAVID B. STEINMAN
117 Liberty Street
New York City

Vice-President
THOMAS W. BATTIN
1327 City Hall Annex
Philadelphia, Pa.

Treasurer
PERRY T. FORD
1113 Wyandotte Building
Columbus, Ohio

Vice-President
HUGH A. KELLY
921 Bergen Avenue
Jersey City, N. J.

Secretary
WILLARD S. CONLON
National Press Building
Washington, D. C.

MEMBER STATE SOCIETIES

OFFICERS AND DIRECTORS

Member State	*President*	*Secretary*	*Director*
CONNECTICUT	HARRY E. HARRIS 229 Thorme Street Bridgeport, Connecticut	CARL GOTTHARDT 229 Thorme Street Bridgeport, Connecticut	JOSEPH WARREN CONE 124 Havemeyer Place Greenwich, Connecticut
DISTRICT OF COLUMBIA	JOHN W. DUNHAM 803 Quintana Place, N.W. Washington, D. C.	MILES E. MYERS 5626 Thirteenth Street, N.W. Washington, D. C.	GREGOR H. HEINE 604 Mills Building Washington, D. C.
ILLINOIS	PAUL E. GREEN 816 Wrigley Building Chicago, Illinois	H.E. BABBITT 204 Engineering Hall Urbana, Illinois	H. E. BABBITT 204 Engineering Hall Urbana, Illinois
KENTUCKY	B. M. BRIGMAN University of Louisville Louisville, Kentucky	C. S. CROUSE University of Kentucky Lexington, Kentucky	D. V. TERRELL University of Kentucky Lexington, Kentucky
NEW JERSEY	GEORGE M. F. RANDOLPH 60 Broad Street Red Bank, New Jersey	ERNEST F. WEEKS 200 East Fifth Street Paterson, New Jersey	GERALD W. KNIGHT 38 East Park Street Newark, New Jersey
NEW YORK	JOHN CHAS. RIEDEL 505 Macon Street Brooklyn, New York	W. A. STUBBS 2952 Grand Central Term. New York City	ARNOLD G. CHAPMAN 154 Chestnut Street Albany, New York
OHIO	PERRY T. FORD 1113 Wyandotte Building Columbus, Ohio	JOHN LAYLIN 78 Neil House Columbus, Ohio	HAL G. SOURS Court House Akron, Ohio
OKLAHOMA	M. C. SHIBLEY 1326 East 19th Street Tulsa, Oklahoma	C. A. LASHBROOK 1145 N.W. Second Street Oklahoma City, Oklahoma	----------
PENNSYLVANIA	SOLOMON M. SWAAB Fidelity-Phila. Building Philadelphia, Pennsylvania	THOMAS W. BATTIN 921 Widener Building Philadelphia, Pennsylvania	SAMUEL I. SACKS 921 Widener Building Philadelphia, Pennsylvania
TEXAS	MAX P. VON HOMEYER Temporary Chairman Texas State Highway Dept. Austin, Texas	R. D. LANDON Temporary Secretary Southern Methodist University Dallas, Texas	J. W. BERETTA Temporary Director Nat'l Bank of Commerce Bldg. San Antonio, Texas
VIRGINIA	E. M. HASTINGS Broad Street Station Richmond, Virginia	R. COOPER BAILEY Box 112 Richmond, Virginia	----------
WEST VIRGINIA	J.E. SETTLE Security Bank Building Charleston, West Virginia	ROBERT WILLIAMSON, JR. Box 252 Charleston, West Virginia	----------

APPRAISING FEDERAL RELIEF

National Society to Hold Symposium

State Societies Requested to Present Reports

All Engineers, Except Federal Employees

Engaged on Works Programs

Invited to Participate in Making State Reports

And to Join in Discussion

AMONG the subjects to be presented at the Annual Convention of the National Society of Professional Engineers, will be a symposium on the Federal Construction Program. The details of the discussion are set forth in a communication, addressed to the several State Societies, which appears elsewhere in this issue.

Probably no activity of the present national administration has provoked such differences of opinion as that of work relief. The opponents of the present program are vehement in their criticism, while proponents are equally vociferous in praising the results of P.W.A., W.P.A., F.H.A., R.A., H.O.L.C. and other temporary agencies created primarily for the purpose of effecting the program in question.

While a consideration of this question might readily produce more positive, more interested and more partial groups and individuals, there assuredly can be no more competent agency of judgment than the engineering profession. In its ranks are to be found those who either directly or indirectly have participated in the program to a greater extent than any other calling. What is the consensus of engineering opinion on the subject of Federal Work Relief as now in operation?

To what extent has it created or re-established employment?

To what extent has it created additional wealth?

To what extent has it affected the morale of the nation?

Should it be expanded or curtailed?

Should there be a rotation in personnel so as to permit all unemployed an opportunity? Many have had three or more years of relief employment; others have sought unsuccessfully for that period to secure such employment.

Has it permitted manufacturers of materials and equipment to make large profits at the expense of labor?

Has it revived industry through increasing general purchasing power?

Has it contributed to the increased private building now in progress in many parts of the country?

These are some of the questions which have been raised and which may be expected to receive attention from speakers.

In presenting this discussion the National Society is not actuated by either professional or political motives. It seeks only to give the nation the experience and reactions of its members. The engineer is not concerned as to whether the proponent or the critic is a republican or democrat. He is interested solely in weighing and presenting the evidence as it has been gathered.

Attention is directed to the last paragraph of the announcement which reads: "In order that no criticism be directed to any individual in expressing opinions in the above report, we request that all employees of any of the above agencies be prohibited from writing any sections of the report."

This is but one of the present day national problems scheduled to come up for discussion at the convention, not the least of which are such matters as drought and flood control. The engineer will be speaking as a citizen who possesses a knowledge and an experience which has made possible that civilization whose promotion and preservation is now his duty to God and to country.

REGISTRATION OF ENGINEERS

A Reply to Some Misunderstandings

Public as Well as Profession is Concerned
All Engineering Work Affects Society
Exemptions Must be Eliminated and Laws Strengthened

By
D. B. STEINMAN

REFERRING to my address on "Registration of Engineers," published in the August 1935 issue of Electrical Engineering, permit me to reply to the discussion that has followed it in these columns, particularly that contributed by Arthur W. Berresford, past-president of A. I. E. E.

Mr. Berresford has evidently given thoughtful study to the subject, but his conclusions are unfortunately impaired by the mistaken premises underlying his discussion.

In the first place, he assumes that the engineering profession may be categorically divided into 2 parts, engineers serving the public and engineers in private or corporate employment, respectively, and that registration is designed to cover only the former classification. Any such division of our profession would be unfortunate. *Registration is intended to cover the entire profession—all engineers,* whether in public or private employ, whether working for fees or salaries, consulting engineers, designing engineers, engineers in public office, in civil service, in public utilities, and in industrial corporations. This is a fundamental principle and cannot be overemphasized. What our profession needs is the establishment of a clear-cut line of demarcation between the engineer and the non-engineer, and that is the goal of registration. Any thought that registration is intended for only a fraction of the profession impairs our solidarity and retards the progress of our profession toward that goal.

It is true that some exemptions are contained in our registration laws, but this fact should not be made the basis for any confused thinking within the profession. It is not the engineer but the non-engineer who is exempted; not the qualified man but the unqualified. Under these exemptions, non-engineers are permitted under certain conditions to do work of an engineering nature, but such exemptions do not make any individual an engineer. To qualify as an engineer, with full professional rights including the right to use the designation "engineer," a man must be registered.

The exemptions that, regrettably, have been written into our registration laws, generally as a matter of temporary expediency, do not represent the ultimate goal. They are being eliminated as rapidly as conditions permit. In the New York State law, an amendment passed last year stops the practice of engineering by corporations unless the chief executive, all employees doing responsible engineering work, and all employees bearing the designation "engineer" are licensed professional engineers. This new requirement brings engineers in corporate employ or "engineers in industry" under the law. Any precedent set by New York State is important, because it covers nearly one-third of the engineering profession in the United States.

The second mistaken premise of Mr. Berresford is his acceptance of the 1930 U. S. census figure of 226,000 as the number of engineers in this country. This figure, frequently cited, merely represents the number of individuals who, without regard to any established definition or qualification standards, recorded themselves in 1930 as "engineers" or in related classifications. No such figure of self-styled "engineers" is pertinent. Only a small fraction of that number are really engineers in the professional sense and can qualify for professional registration. I estimate that there are less than 60,000, perhaps only 50,000, professional engineers in the United States. The rest of the 226,000 self-styled "engineers" are technicians, draftsmen, juniors, apprentices, timekeepers, students, laboratory assistants, foremen, enginemen, contractors, mechanics, electricians, repairmen, plumbers, half-trained men, and impostors. Everyone who is connected with construction or industry seems to think he can consider himself an engineer, even though he lacks the professional education and training. Many of these are accepted for membership in certain technical societies and clubs, but they are not engineers and cannot meet the standards of professional registration.

The spread between the estimated number of 50,000 or 60,000 professional engineers in the United States and the recorded number of 35,000 now registered is explained by the fact of 13 states in which registration laws have not yet been enacted; 3 states in which the registration laws are incomplete, covering only a fraction of the profession; and 8 states in which the laws were enacted only last year and in which the procedure of registration is just commencing. A few more years will practically close the gap.

The revisions in registration laws suggested by Mr. Berresford are unacceptable. They are based on his misconception of the purpose of registration, and their adoption would serve to weaken the laws and to accentuate a cleavage in our profession.

The enforcement cases mentioned in my address covered but 2 states for 1 or 2 years and did not purport to be a complete enumeration. Moreover, the number of prosecutions reported is no criterion of the effectiveness of the registration laws. The policy is one of education, persuasion, and voluntary correction before resorting to court action. The last resort is rarely re-

(*Continued on page* 25)

A NATIONAL PROBLEM

How the Engineer Can Help

In the Solution of the Flood Problem

The World's Greatest Undertaking Requires Leadership Free From Interference and Political Determinations

Financial and Legal Problems Should Be Solved First

By
INGENIEUR

IN approaching a discussion of the topic "How The Professional Engineer Can Help," in the great problem of flood control, candor and discretion combine to suggest the wisdom of prefacing one's comments with the statements to the effect that the problem under discussion, dealing as it does with the misapplication of natural forces, is of such magnitude that no commentator can well overlook the fact that he is assuming a position which might readily be misunderstood as arrogating to himself a qualification to formulate the modus operandi for undertaking what is probably the greatest planned coordinated endeavor in the history of the human race. The writer lays claim to neither knowledge nor experience in support of such a position and his views are offered purely as an expression of personal opinion.

The problem that confronts the American people is not alone nationwide in scope, but is, to draw upon philosophy or theology for a term, omni-prevalent. While in its larger aspects it comprehends areas sufficient in themselves to form empires, there is not a city, town or village that has not witnessed destruction or inconvenience resulting from the inability or failure to provide for heavy and sudden precipitation. Probably few persons, outside the engineering profession, appreciate that in a sewer system which carries both sanitary and storm effluents more than 90% of the capacity is ordinarily required for rainfall alone. Thus it must be realized that the problem of water or flood control ranges from the protection of the vast territory within the drainage area of the mighty "Father of Waters," with its countless tributaries, to the small stream, pipe or conduit through which discharges the rainfall of a city or village street. To the engineer must fall the task of combatting the excess and furies of what is at once the most useful and the most devastating substance in nature—water. Aside from the air we breathe, the first requirement of human existence—it is probably its most ruthless destroyer.

A solution of the problem of flood control, as in the case of practically all human endeavors dealing with the physical development and maintenance of civilized existence, requires the application of three important factors. First, the requisite knowledge of science; second, the mandate or authority to apply that knowledge within the framework of the social order under which those concerned live; and third, the economic procedure whereby an existing medium of exchange may be made available in sufficient quantity . In other words, these factors are science, law and finance, and a satisfactory result necessarily predicates the coordination of all three.

To the engineer falls the first and most fundamental role. Without his knowledge of science and his experience in the application of the same all the mundane laws and all the finances of mankind would be impotent to achieve the desired result. Human statutes may be violated, changed or ignored and basic forms of economic exchange may be substituted for money but there can be no tampering with the inviolate and inviolable laws of physical nature. The knowledge thereof must be possessed and used without attempt at metamorphosis, thought of mutation or extenuation for disregard.

These reflections do not suggest that the factors involved are separate and distinct elements. The solution of the problem requires that they be coordinated and in each instance supported with the knowledge and experience of persons familiar with the nature of the factors themselves. It does, however, raise an important question, one which the writer believes has been too often lightly considered or disregarded entirely in favor of political or personal expediency or opinion. Who should be the coordinator? By virtue of the fact that the engineer must practice his calling in a society wherein human laws and human systems of political economy prevail and in consequence thereof must devote time and study to the subjects of law and economics it necessarily follows that he should possess at least a fundamental knowledge of each of these. In the humble opinion of the writer, and the same is offered with due deference to the knoweldge and experience of the legislator, the attorney, the business man and the financial expert, and in all instances refers to each as a class to which there are, of course, exceptions, the engineer is the only one sufficiently familiar with all elements and the only one possessed of that scientific knowledge upon whose application the entire program depends to assume responsibility for its plan, direction and execution.

The conduct of war calls for professional leadership and a plan. Would any one select a merchant for such a task? A plague or a pestilence likewise requires leadership and a campaign. Would one delegate a banker to plan and direct in such an emergency? The administration of justice embraces the necessity for procedure and execution in conformity with definite tenets. Would one replace a person learned in the law with a tradesman? Perhaps the necessity for offering these comments may be questioned. Yet, the logic of such inquiries is quite apparent if one will but review the practice prevailing generally in connection with the

(*Continued on page* 25)

A RENDEZVOUS WITH DESTINY

The March of Civilization Must Continue

With America as the Place of Nativity of A New Social Order Based on Revised Concepts

By
HOWARD SCOTT

(*Reprinted with permission of Technocracy*)
250 E. 43rd Street, New York

CIVILIZATION has moved ever westward. In 7000 years of recorded social history along this westward movement mankind has evolved many forms of government around a single technic of social administration.

Governments of yesterday and today have produced many variations in their structures but have succeeded only in embellishing the basic technic common to all previous theories of governance.

All government of our social history has been the imposition of a conscious regulatory control on the functional procedure of the means whereby people live. This conscious regulatory control or government has always been extraneous to the functional sequences necessary for man's social livelihood upon which it was imposed.

All governments have had to depend for their economic maintenance upon a subtraction of a portion of the productive output of the individual citizen. The result has been the same whether the individual government achieved it through taxes, tithes, or forced levies. It is significant to note that governments in their extractions of their economic income from the individual citizen have in no case guaranteed any standard of livelihood to their citizens. That governments have been wise or unwise, judicious or tyrannical in the administration of their national affairs is irrelevant to the scope of this inquiry.

In any consideration of governments, past and present, the dominant significance is the relationship of government to the methods of production and distribution and to all physical processes necessary for the conduct of human affairs.

In all social systems the standard of living of the citizens of any particular one is the direct result of energy applied to the natural resources for the satisfaction of the wants of man.

In all civilizations previous to the modern age the only energy that could be degraded and consumed in the social process of living was the physical effort of the citizenry.

It was human toil that built the pyramids at Ghizeh, the walls and gardens of Babylon, the Parthenon of Athens, the temple at Luxor, the Roman highways, the irrigation ditches of Assyria and Nineveh, the castles and cathedrals of medieval Europe, and the palaces of the pre-Power Age.

All governments have regulated the lives of their citizenries more or less—regulations instituted chiefly for the primary purpose of perpetuating more government. Governments have "guaranteed" their citizens and subjects many things. They have promised their citizens peace and safety from attack; they have promised them war and possible loot; they have promised them freedom and liberty; they have promised them heaven when they die, equality here on earth, and equality with the angels.

All governments have imposed upon their citizens the obligation of service and surrender, the obligation of serving their country and their countrymen, and the obligation of surrendering a portion of their economic wherewithal for the perpetuation of government, and their obligations.

In these 7000 years of scarcity economy no government has ever been obliged to maintain a maximum standard of living in the area under its administration. No government has ever been charged by its citizenry with the responsibility of conducting all operations.

Every government of a scarcity economy has striven to avoid the assumption of any such responsibility, and if it has acted at all it has only been in moments of extreme national emergency. The citizens of all previous economies of scarcity were compelled to expend their time and effort in human toil from sunrise to sunset by the ever present threat of starvation; therefore the government of any previous economy of scarcity had internally only the minor problem of maintaining civil order among its underfed citizens. In 7000 years of scarcity economy no government has ever faced the social problem that arises from a new method of producing physical wealth. Hitherto ninety-nine percent of all citizens have burned out their lives in exhaustive human toil, providing the benefactions of leisure to a dominant minority while compensating themselves with a meager sustenance rendered more palatable by the slaven morale of their wish-fulfillment psychology.

Today, in 1936, the national political entities on the North American Continent are confronted with a problem never faced by any previous government of man. The two chief national entities on this Continent cannot avoid the imminent solution of the problem of producing all physical wealth with the minimum of human effort.

The United States and Canada are being compelled by the technological march of events to meet this fun-

damental issue in advance of every civil government of the world. The governments of the United States and Canada will be compelled in spite of their reluctance to meet this epochal issue in the march of civilization—an issue that has but one possible ending, the defeat and abolition of every political government on the Continent of North America.

No political administration of any economy of scarcity, however competent, can, by the very nature of its structure, usher in an economy of abundance.

An economy of abundance on the North American Continent is only possible when political government has been abolished.

The death of the American Price System and its political government will be a far, far greater event to the citizens of this Continent than any of its living acts.

Amid the raucous din of the political circus, the hilarity of the Technocrats over the predicament of this Price System and its political administrators is the one healthy note.

Technology marches on. The political governments of the United States and Canada are beseeching Providence for economic absolution for the sins of the Price System, and Providence tenders them droughts and floods and even more technological equipment.

The political governments of the United States and Canada are part and parcel of the Price System of this Continent. They are the purveyors of scarcity, the merchandisers of national debt and the sowers of national dissolution. They are the ballyhooers of public confidence and the salesman of sucker bait to their citizens.

The political governments of the United States and Canada are the institutional blockades to social progress. They are the strong-arm squads of the merchants of debt and death.

These political governments of debt and dissolution, of scarcity and slaven morale, are unconsciously and unknowingly engaged in stampeding their respective citizens into a national rush—headed for the last roundup.

With all the resources of the national treasuries at their command, these political governments are flooding their respective countries with high-powered propaganda exhorting their citizenries to enter the national political contest for the reward of the more abundant life.

This national propaganda on the part of both countries is a deliberate conspiracy to deceive and defraud the citizens of the United States and Canada from receiving their natural heritage of Continental abundance by delaying the arrival of the New America.

There are clamorings on the part of political parties in the United States and Canada for the revision and amendment of the Constitution and the British North America Act. Technocracy in previous literature has very clearly pointed out that installation of an era of abundance on the North American Continent involves a basic change in the economic channelization of the means whereby the people live.

No basic change in the economic channelization of these two countries is possible under any form of political government. Both the British North America Act and the Constitution of the United States are contractural agreements between the Provinces and the Dominion, the States and the Federal Government. These contractural agreements are national indentures guaranteeing in perpetuity that chiselling shall be the sole prerogative of the merchants of debt.

These documents are the scarecrows of scarcity, the anachronism of a Red River cart or prairie schooner trying to pull a hundred horsepower automobile. They are the antiquities of the poverty of a hand-tool age. They were written with the sickle and the scythe, the spade and the hoe. They sufficed well enough during the primitiveness of a pioneer America; but in this Power Age there is just one last fitting service that modern technology can bestow upon them, that they be wrapped in celophane and preserved in a museum as evidence of social ascent.

The Constitution of the United States and the British North America Act of Canada are the last legal refuges of the Bourbonism of our Price System. The debt merchants of the Price System are seeking to preserve these two blanket permits as the last guarantee of the prerogative of national chiselling; but, alas and alack! when these documents were conceived and perpetrated it was for the purpose of regulating and controlling the privileges of exploiting human effort in creating the values of property. Modern technology was not anticipated by the founding fathers. Wise as the statesmen of our past may have been, the totality of their knowledge would in this Power Age be but a ticket to national stupidity. All social institutions and political documents conceived out of and originated by the experience of men prior to the Power Age are totally useless in solving the problems of the Continental technology that are daily mounting in the social progression of this age of power and machinery.

The ward and the county are the foundation stones in the political structure of the United States and Canada. The 5600 counties in the United States are that many separate divisions in 48 sovereign powers. Within these 5600 counties and 48 States there exist in excess of 162,000 separate and distinct political units charged with the political responsibility of administering the United States under this Price System.

In view of this complicated obsolescent structure of national administration, the absurdity of any political solution to the national problems of the United States —and similarly Canada — becomes immediately apparent.

In the United States a two-thirds majority of the 48 States is required in order to enact a fundamental political change. Can you imagine, Mr. Citizen, the predicament of any political party in either of these countries if it should become sufficiently powerful to be assured of representing the will of the people to the extent of acquiring a two-thirds majority? Mr. Citizen, can you imagine any political party, upon achieving that power, voting itself and its millions of office holders out of existence for the good of the people?

In the United States there are 17,500,000 telephones, 22,500,000 automobiles, 49,000,000 horsepower of industrial prime movers, 240,000 miles of railroad. These are but part of the productive and service equipment whose daily operation is required in the processes of living for its 127,000,000 citizens.

The United States has in excess of 1,600,000,000 horsepower of installed prime movers necessary to drive the equipment in its total operation. This totality of equipment is consuming in excess of 153,000 kilogram-

calories per capita per day—a consumption of energy per capita per day which is not only the highest in the world, but, exclusive of Canada, is not even approached by any other country. This energy is produced from our natural resources of coal, oil, gas, and hydro-electric power. More will be produced from these sources each succeeding year. The continued increase in the conversion of extraneous energy will automatically force a further decline in the consumption of total man-hours in the national economy. The consumption of this extraneous energy is increasing in excess of 5 per cent per annum.

The social operation of the United States will become increasingly critical as the total consumption of extraneous energy approaches 200,000 kilogram-calories per capita per day. This critical total of energy conversion per capita per day is only 30 percent greater than the present total of 153,000. It is therefore obvious that at the rate of growth of 5 per cent per annum the United States will be brought to the critical figure on or before 1942. It is significant that the efficiency of all energy consuming devices tends to increase proportional to the rate of increase in the total energy consumption.

The combination of increasing energy consumption and greater efficiency will result in higher speed, less floor space, reduced plant area, greater production in less hours, faster transportation, and quicker turnover, and bring the final resultant of a greater total productive capacity for the country as a whole with less employment, and consequently less purchasing power, in the form of salaries and wages.

The competitive practices of corporate enterprise in this Price System is compelling the installation of more efficient equipment. The so-called "modernization" of industry in the United States is proceeding by leaps and bounds. The machine tool industry is enjoying a boom almost equal to that of 1929; but its output is two to five times faster and more efficient than that of 1929.

The coal mining industry in the United States is spending 365 million dollars in new coal mining equipment. Coal mining in three years will have no resemblance to the coal mining of today. The new equipment ranges from open pit power-shovels of 50 tons per bucketload to underground loaders capable of loading 8 tons per minute. The world's record for underground coal mining is held by the Orient Mine, in Illinois—an average of 10,000 tons per eight hours with 600 men. It has reached a peak of 15,314 tons in eight hours with the same staff. And this is only the beginning! Technology in the coal industry has merely started. Modern technology, fully applied, is capable in the coal industry of mining 30,000 tons of coal in 24 hours with less than 20 men by the practical development and application of the continuous milling long wall process.

The United Mine Workers of America are on their way to join the glassblowers and the cigar makers in labor's oblivion.

No human being ever acquired social prestige mining coal.

The steel industry of the United States is pouring over 300 million dollars into the modernization of its plants. The United States Steel Corporation, the sleeping giant of the steel industry, has at last been forced by the technology of its competitors to rush into the most extensive rebuilding of steel plants that the industry has ever known. This is the corporation which in the heyday of its prosperity had such a huge capital account that it could obtain its business mainly by financial pressure and not by the metallurgical advancement of ferrous technology.

The United States Steel Corporation, since its inception, has been so powerful financially that it has enjoyed the enviable position of never having made a single contribution to the technology of ferrous metallurgy. It has been rich in dollars and poor in sense, but is now being compelled—like the United States Supreme Court—to bow grudgingly to the technology of this Power Age. It is a little late, but its program of modernization bulks large on the horizon of steel. Technocracy, Inc., is deeply grateful for its unconscious advancement of Technocracy's social objective for the North American Continent.

By September, 1937, practically all of the modernization of the sheet and strip divisions of the steel industry will have been completed and over 60,000 men now employed in the steel industry will no longer be required.

God is good and God is kind. God provided this Continent with the greatest natural resources. God has had a lot of trouble with human beings. In Napoleon's day He was on the side of the heaviest artillery, but in this Power Age, with millions of human beings more capable than they have ever been before, God in His kindness is on the side of the greatest technology.

When the buffalo roamed the western plains and the prairie sod was thick, the water table was high, providing a vast pasturage. The American plains at that time were in biologic equilibrium. The buffalo and the prairie sod have disappeared. Land speculation and farm development by the railroads, the States, the Provinces, and private corporations opened up millions of acres of prairie land. The United States Department of Agriculture assisted corporate enterprise by showing the farmer how to raise crops on the western plains by dry farming. Millions of farms were made and the country was settled. Cities and towns sprang up and it was all deemed part and parcel of American initiative, thrift and industry. Individually, it required hard work, stamina, and ability. It brought the result of a glorious temporary success. But once farming in those areas became widespread (in the last thirty years) its very extensiveness spelled its doom, for agriculture cannot be maintained there over any period of time except in particular locations where water is available for irrigation or the maintenance of the subsoil water table. The widespread agricultural development of dry farming in these areas has lowered the water table from 20 to 40 feet in the last two decades. The present droughts are accessories after the fact. The individualistic, anarchic development of agriculture in these areas has been a cumulative process that can have but one end, the desertizing of the great plains of the United States and Canada—unless the process is controlled by a Continental agronomy and a Continental hydrology.

God is good and God is kind. Floods and droughts are the warnings of Providence that we citizens of this Continent had better mend our sinful ways. Agrotechnology is on the march with its Faraday Fluid Feeding Process or tank farms. Droughts will force

(*Continued on page* 24)

WHAT IS PLANNING?

Is the Term An Engineering One?

The All Too Frequent Application Is in Many Instances a Figure of Speech Conservation Not Necessarily Planning

By
HARRY E. HARRIS

EDITOR George C. Waldo in a pithy editorial in the Bridgeport, Connecticut, Sunday Post of August 30th, has summed up the situation by showing how the government in the past has "sowed the wind" and how we are now "reaping the whirlwind," under the caption, "All Kinds of Planning," as follows:

ALL KINDS OF PLANNING

President Roosevelt in his swing through the drought area paused at Huron, South Dakota, to point to the drought conditions and say:

"Some people don't like 'planning.' The reason the water table has sunk so low out here, is that they didn't think about planning twenty years ago."

When President Roosevelt refers to planning in that sense he is not talking about the same thing as those critics who "don't like planning." Saving the water table isn't planning as the Tugwells, Hopkinses, Ickes, et al, have made the word known. That is conservation. And conservation has been an American policy to a greater or lesser extent for half a century.

The earlier Roosevelt was a conspicuous conservationist and he made both the word and the theory well known to the public. If President Roosevelt calls that planning, few will quarrel with him. When he says that the solution in the Dakotas and other arid regions is better land use, few will quarrel with that either. The conservationists have been saying so, all along.

But when President Roosevelt says that "they" didn't think about planning twenty years ago, he does the government of the United States an injustice. It did plan. What it planned was the drought. It sent its professors and teachers and homesteaders and encouraged the farmers to till the prairie. It taught dry farming. It developed through the Department of Agriculture special kinds of wheat which would grow in the dry country. It broke up the prairies and encouraged their use for farms. It drained the ponds and filled the marshes. Now it is reaping the results of its own policy.

It's just that kind of planning which we want to get rid of.

Every engineer will undoubtedly agree with Editor Waldo in principle, but will object to the use of the engineering expression "planning" to cover the unplanned, unbalanced, boomish misdemeanors of unfitted bureaucrats with their professors, teachers and homesteaders whom they sent out to destroy the country for the sake of transient returns or personal aggrandisement.

"Planning" is an engineering function, the engineer is trained to "plan" both in his fundamental education and in the requirements of his practice, regardless of the branch or specialty he may follow.

The consideration of the pivotal point, the correlated effects, and future extension are essential and inseparable parts of the science of "planning." Coordination is necessary for its successful achievement.

The trained engineer so determines and balances in his planning, that the money, the human effort, the raw material, the land, and all other proposed ingredients to be used do not too closely approach that pivotal point when the end results will be less than the investment; that such end results shall not be progressively self destroying, but that they shall be merely a step, a foundation upon which further extension and progress may be built; that the venture for which he is planning does not disrupt or affect adversely other vital and indispensable correlated components of the system.

By such engineering "planning" are the big and successful businesses of the country carried on, with the work of the various engineers under a chief engineer whose most important duty is to coordinate the different proposed plans and prevent any disruption or unbalance in the actual undertakings.

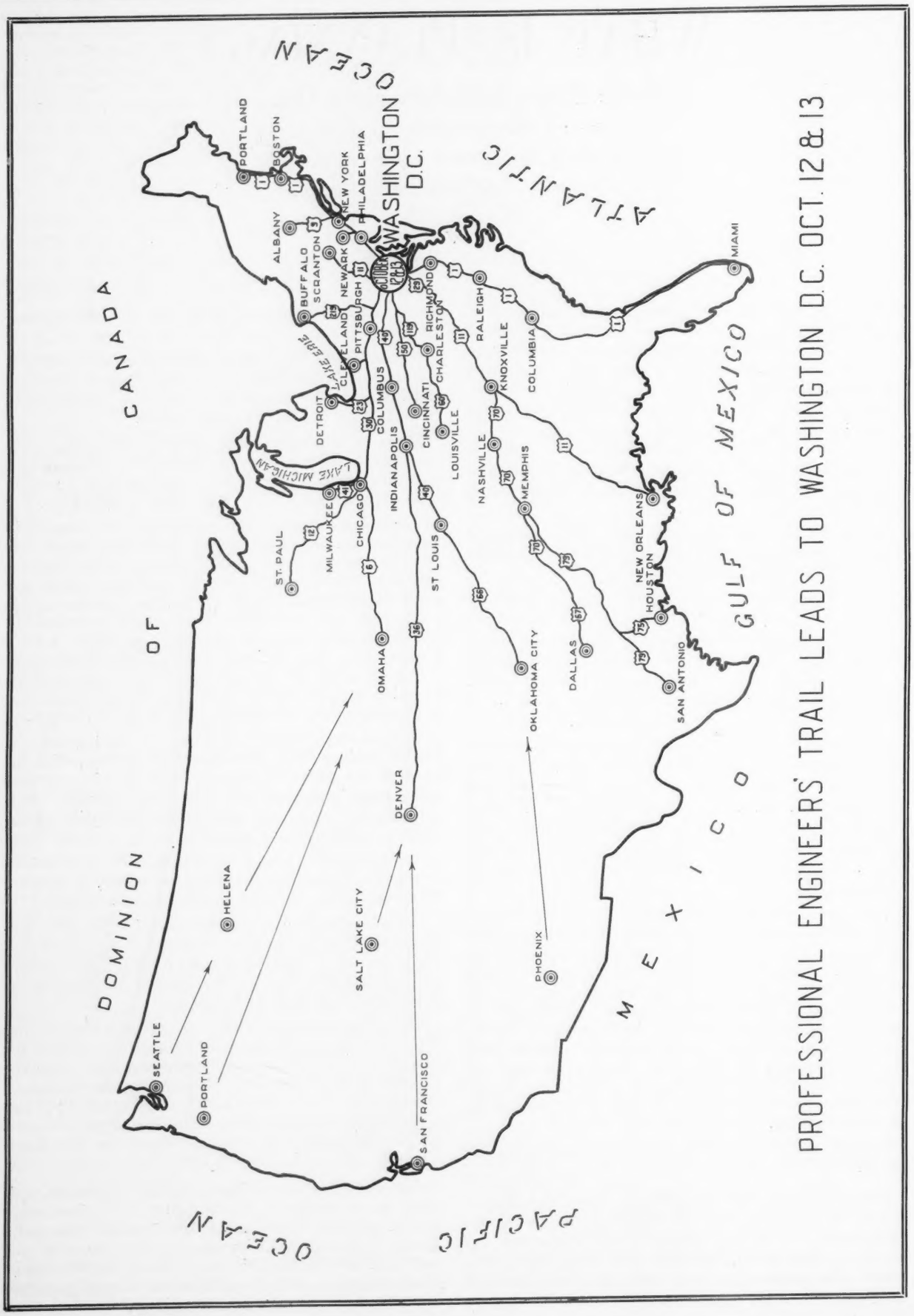
"Conservation" is not "planning." "Conservation" is merely, "preservation from loss, decay, or injury; the keeping of a thing in a safe or entire state."

Conservation to a degree for some irreplaceable materials may well be considered in and be an actual part of "planning." National conservation in all its phases requires the very best of engineering planning, to be economical, useful, and successful.

"Planning" is an ancient and strictly engineering word originating the planning of a plot of ground for structures. With the growth of engineering over the years it has been expanded to cover formulated schemes covering the various steps which have been thought out and decided upon for the carrying out of projects and operations whether they relate to machines, structures, highways, railroads, airports, etc., etc.

The word has been misused in the vernacular variously as a synonym for intrigue, trick, impulsion, hunch, political expediency. Murders are "planned." Every dishonest politician has a "plan" or so to put over that will further his own ends at the expense of his constituents. Every underground ring of gangsters

(*Continued on page* 25)


PROFESSIONAL ENGINEERS' TRAIL LEADS TO WASHINGTON D.C. OCT. 12 & 13
WASHINGTON D.C.
ATLANTIC OCEAN
PACIFIC OCEAN
GULF OF MEXICO
CANADA
DOMINION OF
MEXICO
PORTLAND
BOSTON
NEW YORK
PHILADELPHIA
ALBANY
BUFFALO
SCRANTON
NEWARK
CLEVELAND
PITTSBURGH
DETROIT
LAKE ERIE
LAKE MICHIGAN
MILWAUKEE
CHICAGO
COLUMBUS
INDIANAPOLIS
CINCINNATI
LOUISVILLE
ST. PAUL
ST LOUIS
NASHVILLE
MEMPHIS
KNOXVILLE
CHARLESTON
RICHMOND
RALEIGH
COLUMBIA
MIAMI
NEW ORLEANS
HOUSTON
SAN ANTONIO
DALLAS
OKLAHOMA CITY
OMAHA
DENVER
SALT LAKE CITY
PHOENIX
HELENA
SEATTLE
PORTLAND
SAN FRANCISCO

WASHINGTON CALLS

The National Society of Professional Engineers

Second Annual Convention

October 12 and 13, 1936

"LET YOUR FALL VACATION PLANS INCLUDE THIS TRIP"

By
WILLARD S. CONLON

ALL ABOARD FOR WASHINGTON: The Second Annual Convention of N. S. P. E. will be held at the Mayflower Hotel on Monday and Tuesday, October 12th and 13th. Our hosts, the District of Columbia Society of Professional Engineers, have planned a pre-convention program for those who can conveniently arrive the Saturday or Sunday (October 10th or 11th) preceding the Convention. This program will include among other things pleasure and educational trips. By attending this Convention you will also enjoy the unsurpassed attraction of your own National Capital. Washington is beautiful and will be a revelation to you.

The Mall, one of the show places of Washington, extends from the Capitol to the Lincoln Memorial and takes in the landscaped areas of the United States Department of Agriculture, the seventy acres of the Sylvan Theater surrounding the Washington Monument, and the Smithsonian Grounds.

The Federal District, now the District of Columbia, was selected and laid out by Washington, Jefferson, and Major Pierre Charles L'Enfant, a highly capable French engineer employed by Washington for the task of planning the Federal City.

It is not possible in the space available to go into detail in regard to Engineer L'Enfant's ideas. It may be said, however, that he stressed the accommodation of his plan to the topography. The plan of L'Enfant has not been followed closely and continuously through the years, but it has been revived from time to time and since its revival in 1901 with the appointment of the McMillan Commission headed by Senator McMillan, definite progress has been made. More park land has been acquired and a $200,000,000 Federal Building Program is being carried out; the Mall has been made the beautiful place that it was intended to be and in fact Washington is now the most attractive of the world's capitals. The McMillan report, a reaffirmation of the plans of L'Enfant, has been the basis of all major projects initiated since that time. Pennsylvania Avenue from the White House almost to the Capitol Grounds is bordered on one side by the greatest array of public building in the history of the world. Here again is a tribute to L'Enfant and his capabilities. His idea was to have the mile stretch between the White House and the "Hill" a scene of great beauty with mansions of foreign ministers, gardens, sloping lawns and a great religious temple. These will not rise, but in their place and following in a way his suggestion, are the massive government buildings. So after the vicissitudes of the years, after dismissal from his position and twenty-five years of bitter life in the City he created, the memory of Engineer L'Enfant lives. This engineer endowed with the creative instinct, in one short year completed the basic plans for the Capital of the greatest nation in the world.

Of particular interest to engineers will be the form of government of the District of Columbia. The present form of government was created by act of Congress approved June 11, 1878. No part of the District exercises the right of suffrage.

The local government of the District of Columbia is a municipal corporation with jurisdiction over territory comprising 69 square miles. It is administered by a board of three commissioners having general equal powers and duties. Two of these commissioners are appointed from civil life by the President and confirmed by the Senate. The third commissioner is detailed from time to time by the President of the United States from the Corps of Engineers of the United States Army. The present Engineer Commissioner Colonel Dan Sultan will deliver the official welcome address to the Convention.

The many points of interest you will want to visit are: The Bureau of Standards, Smithsonian Institute, Library of Congress, White House, Washington Monument, Lincoln Memorial, Lincoln Museum, Bureau of Engraving and Printing, American Red Cross Buildings, Speedway—via Reflecting Pools, Pan-American Building, and many others.

You should not miss the opportunity to meet your affiliates from all parts of the country. Come and bring your family with you and make this your fall vacation.

You have already received your reservation card. Fill it in now and assist the committee to make your visit a pleasant one.

Convention Information

LOCATION . . . WASHINGTON, D. C.
DATE . OCTOBER 12th and 13th, 1936
HEADQUARTERS . HOTEL MAYFLOWER
PROGRAM . . . SEE ADJACENT PAGE

Committees

General Chairman. Engineer Willard S. Conlon, Executive Secretary, N.S.P.E., National Press Building, Washington, D. C.
Vice-Chairman, Engineer John W. Dunham, 803 Quintana Place, N. W., Washington, D. C.

PROGRAM COMMITTEE

Engineer Walter L. Simpson, Chairman, Powhatan Hotel, Washington, D. C.
Engineer Orley B. Lane, 6515 - 7th Street, N. W., Washington, D. C.
Engineer Isador W. Mendelsohn, 5420 Connecticut Avenue, Washington, D. C.
Engineer Walter I. Swanton, 1464 Belmont Ave., Washington, D. C.
Engineer James Lewis Philips, 5616 - 30th Place, N. W., Washington, D. C.

ARRANGEMENTS COMMITTEE

Engineer Michael L. Mascia, Chairman, c/o 1033 National Press Building, Washington, D. C.
Engineer Miles E. Myers, 5626 - 13th Street, N. W., Washington, D. C.
Engineer R. A. Jobes, Park Central Hotel, Washington, D.C.
Engineer Milton Kellert, 3435 Brown Street, N. W., Washington, D. C.
Engineer Virgil C. Wagner, 211 Delaware Ave., Washington, D. C.
Engineer John Davey, 1717 Riggs Place, N. W., Washington, D. C.

ENTERTAINMENT COMMITTEE

Engineer George E. Geyer, Chairman, McLean, Virginia
Engineer Miles E. Myers, 5626 - 13th Street, N. W., Washington, D. C.

TRANSPORTATION COMMITTEE

Engineer Frank L. Tobin, Chairman, 1844 Columbia Road, N. W., Washington, D. C.
Engineer Lester M. Marx, Chastleton Hotel, Washington, D. C.
Engineer William Bach, 1426 M Street, N. W., Washington, D. C.

RECEPTION COMMITTEE

Engineer John W. Dunham, Chairman, 803 Quintana Pl., N. W., Washington, D. C.
Engineer Joseph Barnett, 4550 Connecticut Ave., N. W., Washington, D. C.
Engineer Albert Sutter, 3025 Dent Place, Washington, D.C.
Engineer Gregor H. Heine, 604 Mills Bldg., Washington, D. C.
Engineer Maurice D. Kiezales, 3000 Connecticut Ave., N.W., Washington, D. C.
Chairman, Mrs. John W. Dunham, 803 Quintana Pl., N. W., Washington, D. C.
Vice-Chairman, Mrs. Lester M. Marx, Chastleton Hotel, Washington, D. C.
Vice-Chairman, Mrs. Frank L. Tobin, 1844 Columbia Road, N. W., Washington, D. C.
Mrs. William Bush, 826 Underwood Street, N. W., Washington, D. C.
Mrs. Alexander A. Forrest, 1630 R Street, N. W., Washington, D. C.
Mrs. George E. Geyer, McLean, Virginia
Mrs. Richard A. Jobes, Park Central Hotel, Washington, D. C.
Mrs. Miles E. Myers, 5626 - 13th Street, N. W., Washington, D. C.
Mrs. L. Benton Sartain, 3525 Davenport Street, N. W., Washington, D. C.

HOTEL RATES (per day)

Hotel	*Number of Rooms*	*Single*	*Double*
Carlton	250	$4.00-$6.00	$6.00-$10.00
Roosevelt	500	4.00	5.00- 8.00
Shoreham	700	4.00	6.00
Mayflower	1000	3.50- 5.00	5.00- 10.00
Washington, The	400	3.00- 5.00	5.00- 8.00
Willard, The	450	3.00- 5.00	4.00- 8.00
Lafayette	200	3.00- 4.00	4.50- 8.00
Lee House	250	3.00- 4.00	4.00- 7.00
Martinique	100	3.00- 3.50	4.00- 7.00
Ambassador	200	3.00- 3.50	5.00- 7.00
Continental	250	3.00- 3.50	5.00- 7.00
Fairfax	300	3.00- 3.50	4.00- 5.00
Hamilton	300	3.00- 4.00	5.00- 6.00
Hay-Adams	200	3.00	7.00
Raleigh	420	3.00- 3.50	5.00- 7.00

Hotel	*Number of Rooms*	*Single*	*Double*
Powhatan	250	$3.00-$3.50	$5.00- $6.00
Wardman Park	1800	3.00	4.50- 5.00
Cairo	300	3.00	4.00- 4.50
Annapolis	400	2.50	4.00- 5.00
Capitol Park	150	2.50- 3.00	4.00- 6.00
Commodore	150	2.50- 3.50	3.50- 5.00
Dodge	250	2.50	6.00
Ebbitt	150	2.50	4.00- 6.00
Harrington	300	2.50- 3.50	4.00- 7.00
Houston	140	2.50	3.50- 4.00
New Colonial	200	2.50	3.50- 4.00
Benedick	116		4.00- 5.00
Blackstone	100		4.00- 5.00
Plaza	100		4.00- 5.00

Rooms may be obtained in private homes for approximately $1.50 per day.
Reservations, accompanied by remittance, can be made directly through the National Society of Professional Engineers, 1033 National Press Building, Washington, D. C.

Program

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Second Annual Convention

OCTOBER 12-13, 1936

MAYFLOWER HOTEL, WASHINGTON, D. C.

MONDAY, OCTOBER 12, 1936

9:00 A.M.—REGISTRATION OF DELEGATES AND GUESTS

10:00 A.M.—WELCOME TO CAPITAL CITY — Engr. Comm. Col. Dan Sultan; reply by President Steinman, N.S.P.E.

10:30 A.M.—GENERAL BUSINESS MEETING—Reports of Officers

1:00 P.M.—LUNCH

2:00 P.M.—ROUND TABLE DISCUSSION:
- Status of Engineering Registration
- Cooperation of Engineers in furthering Registration
- Engineer in Public Service
- Adoption of Engineering Degrees
- Engineering Education

7:00 P.M.—COMMITTEE MEETINGS

7:30 P.M.—BOARD OF DIRECTORS MEETING

TUESDAY, OCTOBER 13, 1936

10:00 A.M.—NEW BUSINESS:
- Report of Convention Committee
- Report of Tellers Committee
- Report of Resolution Committee

1:00 P.M.—LUNCH

2:00 P.M.—REPORTS OF COMMITTEES:
- Executive Committee
- Membership Committee
- Legislative Committee
- Public Relations Committee
- Publication Committee
- Professional Relations Committee
- Special Committee

7:30 P.M.—BANQUET
- TOASTMASTER: Engr. D. B. Steinman, Consulting Engineer, New York, N. Y. President, N.S.P.E.
- WHITHER SOCIETY: Engr. Arthur V. Sheridan, Chief Engineer, Bronx, N. Y. Editor "American Engineer"
- THE TIMES. Hon. Charles E. West, Under Secretary, Department of the Interior

10:00 P.M.—DANCING

Sight Seeing Program

FOR

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

CONVENTION—OCTOBER 10-11-12 and 13th

SATURDAY, OCT. 10—No special trips planned. Tickets will be on sale at the convention headquarters for all tours, and the regular scheduled sight-seeing tours as outlined in the sight-seeing folders which will be available at the Blue and Grey Line sight-seeing desk. Rates and other information are shown in the sight-seeing folder.

SUNDAY, OCT. 11—A special tour to Arlington National Cemetery, Alexandria and Mt. Vernon, as shown under Tour "D" in the folder, leaving the De Sales Street entrance of the Mayflower Hotel at 1:30 P.M., rate $3.00 per capita. Tickets for other tours will also be on sale.

MONDAY, OCT. 12—Tickets for all sight-seeing tours will be on sale at the Blue and Grey Line sight-seeing desk. A special Night Tour of the City will leave the De Sales Street entrance of the Mayflower Hotel at 8:00 P.M. This tour includes the down town section of the city, Riverside Drive, and Potomac Park, allowing stops at the Congressional Library and the Lincoln Memorial, rate $1.00 per capita.

TUESDAY, OCT. 13—A special sight-seeing trip for women, a Combination tour of the residential section of the city, the Franciscan Monastery, the Shrine of the Immaculate Conception, and the Washington Cathedral, as shown under tour "E" in the sight-seeing folder, rate $2.00 per capita.

All tours will be operated by the Blue and Grey Sight-Seeing Tours, Inc.

Reservations should be made in advance.

For those desiring private cars, a special limousine service will be available to members of the N.S.P.E. at the rate of $3.00 per hour for sight-seeing service or other city driving.

NATIONAL SOCIETY MEMBERSHIP

State Roster as of August 22, 1936

	Total P.E. Members Enrolled.	Total Members in Good Standing in N.S.P.E.
Alabama	1	1
California	2	2
Connecticut	64	64
District of Columbia	63	63
Illinois	300	44
Kentucky	68	14
Maine	3	3
Massachusetts	5	5
New Jersey	389	334
New York	2361	1543
Ohio	1050	613
Oklahoma	300	52
Pennsylvania	348	303
South Carolina	8	8
Texas	84	42
Virginia	13	2
Washington	2	2
West Virginia	316	13
	5377	3108

A Professionally Minded Engineer

By
W. S. CONLON

1. SECURES A LICENSE

   This is a declaration by the State of his residence that he is a qualified practitioner. If a license law has not been enacted in his State, he takes an active part in promoting such law.

2. JOINS A LOCAL CHAPTER

   of his State Society of Professional Engineers and takes an active part in its program. If a State Society does not exist, he promotes a State Society and has but to ask N. S. P. E. to receive assistance in promoting it.

3. PROMOTES AFFILIATION

   of his State Society with the National Society of Professional Engineers and thereafter takes his place in the campaign to effectuate the platform of his professional society.

IF YOU ARE A MEMBER

1. Have you secured at least one new Member?
2. Have you contributed your just share of time and talents toward building a strong State Society and County Chapter?

IF YOU ARE NOT A MEMBER

1. Check the table of State Societies for the name of the Secretary in your State and file an application now. If a Society has not been organized in your State, communicate with N. S. P. E.
2. Become one of the progressive members of your profession and join with thousands of your fellow practitioners in a Society restricting its membership to Engineers, thus unifying and strengthening the professional and economic structure of your calling, bringing it from chaos to control and placing it on a par with the Legal and Medical Professions.

AN APPEAL

To All State Affiliates and County Units

of

The National Society of Professional Engineers

(Please have this communication read at your next meeting).

Subject: The American Engineer

THIS is a request for your active cooperation in securing advertising for our Society's publication,—*The American Engineer*. It is the revenue from advertising that makes this magazine possible, and additional advertising is necessary for the continuance of the publication. The small amount allocated from members' dues cannot pay for the cost of producing the magazine, and the difference must be made up by selling advertising space.

Heretofore the advertising concession was included in the printing contract. That arrangement is being terminated by mutual consent, and the Society is taking over the responsibility and the revenues of the advertising. It is therefore incumbent upon every unit and every individual member to lend a hand, for the results will spell the difference between financial embarrassment and financial prosperity for our organization. With proper teamwork, our magazine advertising can be built up to a highly profitable basis, paying not only for the cost of the publication but also for the enlargement of the other activities of our Society in both scope and effectiveness. It can be done. Other organizations have done it. One professional organization recorded a profit of $180,000 in one year from advertising in its publication.

Now, as to procedure: The campaign to secure advertising is to be headed by Engr. Willard S. Conlon, Executive Secretary of N.S.P.E., who, in addition to his many other duties, has taken over the business management of the *American Engineer*. Each State Society and each County Chapter is requested to appoint a committee to handle the campaign in its territory. The name of the Committee Chairman should be promptly communicated to Engr. Conlon, who will supply rate cards, contract forms, sample copies, letterheads, and further instructions. In addition, each individual member of the Society is urged to follow up any contacts he may have with prospective advertisers and endeavor to secure their advertising. If you have any members who are unemployed or who need additional income, they may be enlisted to give their time to soliciting advertisements on a commission basis.

In representing the magazine to prospective advertisers, the good will value of such advertising should be emphasized. The *American Engineer* is a magazine close to the hearts of its readers; it is a magazine of, by, and for the Engineer; and the advertising that makes its publication possible earns the appreciative good will of all Professional Engineers.

Another means of supporting the magazine is to urge your individual members to place their cards in the Professional Directory. This keeps the individual Engineer's name, address and field of practice before the Profession. We should have hundreds of such cards in the Professional Directory, and the local committee should canvass every member of the organization toward this objective.

If each Member State Society of N.S.P.E would *underwrite one page of advertising for the magazine,* we would have twelve pages of advertising in each issue and our financial problem would be solved. This would enable us to enlarge and improve the publication and to build up the organization by sending more copies for educational and promotional work in States not yet organized, besides building up additional income as a substitute for dues for extension of activities and for an emergency aid fund to use in times of stress.

May we count on your cooperation?

Faithfully yours,

D. B. STEINMAN.

AGREEMENT AND RATES

THE AMERICAN ENGINEER
Official Publication
THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS
National Press Building
Washington, D. C.

You are hereby authorized to insert our advertisement in "The American Engineer" to occupy.....pages for.....consecutive issues beginning ....., 19..... issue and thereafter until cancelled by either party to this contract at $.....per issue, payable on the first day of each month for each issue in the preceding month.

If Advertising copy is not furnished within one week previous to each issue, you may insert our business card. This contract is non-cancellable.

Name..... By.....

Address..... Date.....

RATES

	1 *Insertion*	12 *Insertions*
Full Page	$75.00	$50.00
Half Page	50.00	35.00
One-quarter Page	42.00	21.00
One-eighth Page	20.00	15.00

Outside Back Cover	$175.00	$150.00
Inside Front Cover	150.00	125.00
Inside Back Cover	140.00	115.00
(Cover pages in two colors)		

ITEMS OF GENERAL INTEREST

NEWS, REPORTS, COMMENTS

NATIONAL SOCIETY ACTIVITIES

Correspondents and readers are invited to submit for publication items of interest to the professional Engineer of the country. Such material must reach the Editor prior to the fifth day of each month.

FEDERAL CONSTRUCTION PROGRAM

The Results of Emergency Agencies To Be a Feature of Washington Convention

Reports Requested from State Societies Program Committee Issues Bulletin

At the request of the Convention Program Committee, National Secretary Conlon has addressed the Secretaries of the several State Societies, transmitting an outline of the subject matter desired for a Symposium on a subject of public interest and concern.

To All State Secretaries:

The Program Committee of the Second Annual Convention Committee is desirous of having a special report on the Federal Emergency Construction and Relief Programs prepared by each State Society and submitted as outlined hereafter. These reports to be used as a basis for discussion and such further consideration as the Convention may deem expedient to the welfare of the Nation. A brief outline of the proposition is contained in the instruction sheet prepared by the Committee.

Sincerely yours,
WILLARD S. CONLON.

FEDERAL EMERGENCY CONSTRUCTION PROGRAM

Request for Reports
Instruction Sheet

In view of the intense interest shown at this time in the engineering and construction world in the pump priming and relief programs of the Federal Government, we do not believe the forthcoming program of the National Society of Professional Engineers would be complete without some discussion of this topic. In order to conserve time, we are asking each State Society to submit *to the National Secretary by October 1st* at the latest a report summarizing the work of such government agencies as Federal Housing Administration; W. P. A.; Resettlement Administration; Home Owners' Loan Association; P. W. A.; etc., showing how the rules, regulations and set-up of each of the agencies have directly and indirectly benefited:

1. The nation as a whole; 2. The immediate community; 3. The construction industry; 4. The Professional Engineer. While we have placed the Professional Engineer fourth on the list, we as members of the Society are vitally interested in this point. The report should therefore necessarily stress the effect on the engineer. Furthermore, the report should show particularly how the engineering profession and the construction industry have been benefited by each of these programs, as to

1. Ethics; 2. Employment; 3. Monetary

(*Continued on page* 21)

AUSTRALIA

Registration Discussion Exchanges Correspondence With Steinman

From far-off Australia comes a comment and a request for information. The communication together with the reply of President Steinman follows.

July 10,1936

Mr. D. B. Steinman,
117 Liberty Street,
New York, U. S. A.
Dear Sir:

In the Engineering News Record of February 23rd, 1932, it is noted that you have submitted certain statistics and reasons for Engineers becoming licensed as Professional Engineers.

In Australia, particularly in New South Wales, there is a large number of engineers who desire registration but are meeting with opposition from the more conservative members of the local Institution of Engineers.

It has been stated that the operation of licensing or registration in the United States of America has not been beneficial to engineers and, furthermore, that the engineers themselves are very slow in obtaining registration or licenses as it is not thought that the benefits are of any value.

I would be pleased if you could bring the statistics supplied in your letter referred to up to date, and also advise me as to the general attitude of the bulk of the practising or employed engineers in the United States towards registration.

One of the objections is that the qualifications for engineers will very likely be fixed on a low scale and that political interference with such qualifications is likely to act detrimentally to the standard required. While the objections, to my mind, are puerile and prejudiced on account of political affiliations with the more conservative parties, I am of opinion that registration would be very beneficial to engineers and I am trying to induce the local Institution to father the agitation and obtain the necessary legislative enactments.

Thanking you in anticipation,
I am
Yours sincerely
(Signed) S. DENNIS,
Bridge Engineer.

August 11, 1936.

Engineer S. Dennis,
309 Castlereagh Street,
Sydney, N. S. W., Australia.
Dear Engineer Dennis:

I have your letter of July 10th, and am pleased to note your interest in the proposal to establish Engineers' Registration in Australia.

To supply you with the information you request, I am sending you herewith

(*Continued on page* 21)

LOUISIANA LICENSES CONTRACTORS

Reviewed by Engineer Samuel I. Sacks

The State of Louisiana has enacted a law restricting the practice of General Contracting to qualified persons.

Engineer Samuel I. Sacks, of the Pennsylvania Society, an attorney of the Keystone State and Chairman of the legislative Committee of the National Society, has made the following interesting analysis of the Louisiana law:

The Act No. 172, was approved July 8th, 1936. It follows the general form of Engineer Licensing Acts and prohibits the engaging in business as a general contractor without first complying with the act.

Section 1 defines a general contractor as one who, for a fixed price, commission, fee or wage, undertakes to construct or superintend the construction of any building, highway, sewer, grading or any improvement or structure where the cost is $10,000., or more and one who shall engage in the construction or superintending the construction of any structure undertaking or improvements above mentioned.

Sections 2, 3, 4, 5, 6, and 7 provide for the appointment and conduct of a Board of five members, particularly requiring at least one member to have the larger part of his business in the construction of highways, one similarly on the construction of public utilities and the third on the construction of buildings.

Section 8 provides for the publishing of a roster of contractors licensed for a year.

Section 9 provides that anyone desiring to be licensed as a general contractor in the State, must file an application on a form prescribed by the Board. The applicant is then entitled to an examination by the Board and, if satisfactory, receives a license. Anyone failing in any examination may be reexamined without any additional fee at a subsequent meeting of the Board. The Board may, by the approval of the Governor and Attorney General, fix reasonable fees to be assessed against contractors licensed under the Act, to defray all expenses. The Board may conduct an examination where as much as three days may be devoted to written or oral examination within the discretion of the Board, to ascertain the ability of the applicant to make a practical application of his knowledge of the profession of general contracting and shall investigate thoroughly the financial responsibility and past record of all applicants which will include an effort toward ascertaining the qualifications of the applicant in reading plans and specifications, estimating costs, construction, ethics and other similar matters. This section further provides

(*Continued on page* 21)

STATE ACTIVITIES REPORTED

REPORTS THROUGHOUT COUNTRY INDICATE INCREASED INTEREST

The American Engineer acknowledges the contributions of correspondents and intends, as soon as the organization of its editorial staff is completed, to make proper announcements.

Correspondents are urged to forward news items in time for the same to reach the Editor before the fifth of each month.

VIRGINIA

Society Meets

The first general meeting of the new Virginia Society was held in Richmond on September 21st. President Steinman and Secretary Conlon addressed a representative and enthusiastic gathering.

A notice of the meeting, forwarded to registered engineers, suggest the value of similar procedure:

Virginia Society of Professional Engineers

P. O. Box 112, Richmond, Va.
August 17, 1936.

Dear Engineer:

You have been admitted into the Engineering Profession through registration as a Professional Engineer. We extend our sincere congratulations, also our cordial invitation to become a member of the Virginia Society of Professional Engineers, which you may join and by so doing, be taking a step to help our Profession. By joining the State Society, you will also become a member of the National Society of Professional Engineers,—the first and only national organization of the Engineering Profession as a whole.

The license which has been granted you is the recognition of your attainment of professional qualifications and status, representing your investment of many years in intensive study, training, and experience. The State Society and the National Society are organized to protect and enhance the value of this investment. We are organized to do for the Engineer what the Medical Association and the Bar Association have done for their respective professions, in increasing prestige, legal protection, and professional recognition.

We have recently organized the Virginia Chapter, having obtained our Charter in June of this year. Our first meeting will be held at the Westmoreland Club in Richmond on Monday, September 21st, at which time we will discuss a subject which will be of interest to all registered Engineers, namely, increasing the benefits of the Registration Law to the Professional Engineer. We attempted a revision in this law at the last meeting of the Legislature, but we were not sufficiently organized to obtain any definite results. If we start in time and have the cooperation of each Certified Engineer in the State there is no reason why we should not obtain success at the next meeting of the Legislature. This is a worthy objective and we need the enrollment of every registered Professional Engineer in this State. If we are to ever bring our Profession up to the distinction it deserves, we must all work together for that one objective.

Why not join our organization now at the beginning and take your place in the State and National Organization of the Engineering Profession? Application

(*Continued on page* 20)

PENNSYLVANIA

Reading Holds Summer Meeting

From LeRoy Christman, Secretary of the Reading Chapter of the Pennsylvania Society, comes the following report of a meeting held during the latter part of August:

The Reading Chapter of the Pennsylvania Society of Profesional Engineers Holds A Summer Meeting

On Thursday evening August 20th the Reading Chapter of the Penna. Society of Professional Engineers held a special dinner meeting at the Tower Hotel on the Skyline Boulevard, at which the principal speaker was Dr. D. B. Steinman of New York City, President of the National Society of Professional Engineers and one of the outstanding bridge engineers of America, with an international reputation.

Thirty-two members and guests of the Chapter were present, among them Engr. T. W. Battin, President of the Philadelphia Chapter, Engr. Robert H. Craig, President of the Harrisburg Chapter, and Engrs. Boyd and Weimer, the Lebanon members of the Reading Chapter; also U. S. Engr. Sandilands, in charge of the Schuylkill River Survey now in progress.

An excellent dinner was served on the lower veranda of the hotel, after which the assembly adjourned to the ballroom where Dr. Steinman delivered an inspiring address on the outstanding importance to engineers, who are the real builders of our present-day civilization, of a professional organization that will integrate their deserved prestige as a learned profession, in ways parallel to those followed through past generations by the ministerial, medical and legal professions.

The first requirement toward this desirable end is, that all States should have registration laws, and that all practitioners of enginering should register in accordance therewith, as the first requisite towards being rated as professional engineers.

The admission to practice of members of the three above-named long recognized professions, is invariably through the permission of a legally constituted professional association, which exercises this permissive function independently of the diplomas granted by the professional schools, which constitute only the first credentials of candidates. The law and medical professions have National, State and County Bar and Medical associations, which endeavor to safeguard both the public and the professions from unethical and incompetent practitioners.

The National Society of Professional Engineers aims, through the State Societies and County Chapters, to accomplish the same object for the engineers, this being a task for which none of the ninety-odd technical engineering societies are organized to do separately, and which it would be impracticable for them

(*Continued on page* 20)

CONNECTICUT

IMPORTANT

Registration Requirements Stiffen January 1, 1937

Qualified Engineers Should Apply At Once

The Bridgeport Post of Sunday, August 30th, carried the following news item:

Few Engineers Registering Here Under Law, Says Harris

President of Connecticut Society 'Regrets' Poor Showing Made by Bridgeport

Harry E. Harris of Bridgeport, president of the Connecticut Society of Engineers, expressed regret yesterday that Bridgeport had made such a poor showing to date in the registration of engineers, under Connecticut's new registration law.

By the records of the profession, Bridgeport with its large number of electrical and mechanical engineers engaged in industry ought to be near the top in numbers. To date it is only a poor fourth. Mr. Harris said:

All Must Be Registered

"According to the first published report of the State Board of Registration for Professional Engineers and Land Surveyors, the Bridgeport professional engineers are a poor fourth in passing the qualifications required to attain professional engineering status under the new state law now in effect requiring that every engineer shall have his record examined and receive state registration before he may offer his services as an engineer.

"The New Haven district leads with 161 engineers accepted and registered, with Hartford a close second, having 155.

"The Waterbury vicinity has about 50 per cent more registered than Bridgeport, or a total of 90.

Only 34 Here Pass Requirements

"Bridgeport proper only has 34 engineers who have succeeded in passing the requirements of the board; including in the Bridgeport district, registrations from Devon, Stratford, Westport, Norwalk, Danbury, Southbury, Trumbull, Stepney, Redding, Newtown, brings the Bridgeport total up to 65.

"The New London area follows with 36, Stamford next with 33, New Britain with 31 and Middletown with 15.

"It seems inexplicable that Bridgeport, always proud of her engineering and industrial supremacy should fall so far behind Waterbury, and that New Haven and Hartford should each have about three times as many qualified engineers as Bridgeport.

First Club Formed Here

"Bridgeport engineers were the lead-

(*Continued on page* 20)

NEW YORK

Engineers and Land Surveyors Examinations for Registration

New York State examinations for Professional Engineers and Land Surveyors will be given at Albany, Buffalo, New York City and Syracuse, on January 25th to 27th. Applications to take these examinations must be filed with the State Education Department at Albany before November 1st.

WESTCHESTER COUNTY

Lecture and instruction courses in structural planning and design for members and non-members of the National Society of Professional Engineers are being given under the auspices of the Westchester County Chapter. The courses are personally conducted by Francis Roderick MacLeay, a Consulting Engineer of wide structural experience.

These courses are not designed to *make engineers* but to help persons of engineering education and experience to so develop these assets as to better qualify for licenses to practice in positions of responsibility.

An interesting feature of the arrangement is that persons paying the full fee for the lecture course ($20.00) who receive a New York State Professional Engineers' license following the course become entitled to full membership in the national, state and chapter organizations with dues paid in full for one year.

NIAGARA COUNTY

Engineer J. W. Naylor, Secretary of the Niagara County Chapter, has transmitted the following interesting suggestion:

"That Term Engineer"

"Preface—

As a Registered Professional Engineer, holding a Certificate of Qualification from the National Council of State Boards of Engineering Examiners, with a Class "A" license as Chief Engineer, in his residential city, for steam plants of unlimited horsepower—the writer feels qualified to speak for both groups upon this question.

It is an indisputable fact that the term "Engineer" is applicable to only the Professional Engineer duly licensed by a State Board of Examiners or certified by the National Council of State Boards.

However, let us consider the man who "runs the engine." Years of common usage, throughout the land, have given him a sort of "squatter's right" to the name.

There are many high class men in charge of steam plants who are experts in all branches of their calling. A goodly percentage of these gentlemen are technical graduates. The others have spent many weary lamp-lighted hours at home study to qualify themselves for these positions. Much credit is due them. As a matter of fact, many of them are actually better engineers than some registered engineers holding State licenses.

Such men have a feeling that "if they be not engineers, what be they?" It is unfair to censure them for desiring to retain their ranking — they are justly proud of their achievements.

Some of the terms, heretofore suggested, seem undignified and are lacking in lingual rhythm. Others are difficult to pronounce or are susceptible of interpretation as subtle ridicule.

It is the suggestion of the writer that the term "Enginor" be coined for this position. It retains enough of the former term to identify men of this calling, is euphonic, and will in no wise conflict with the term "Engineer".

Respectfully submitted by an Engineer and "Enginor".

PUTNAM COUNTY

Engineer John C. Riedel, President of the New York State Society of Professional Engineers, communicated with the State Civil Service Commission and the Board of Supervisors of Putnam County in August, requesting that it be required that one of the prerequisites of applicants for the position of County Superintendent of Highways be the possession of a license to practice professional engineering.

VIRGINIA

(*Continued from page* 19)

for membership may be made by signing and mailing the enclosed blank to the Virginia State Society headquarters, P. O. Box 112, Richmond, Virginia. As there is no initiation charge, a check for $5.00 should be enclosed for the first year's dues. These dues include subscription to the National Society magazine, "American Engineer," which is devoted to the development of the Engineering Profession.

Yours very truly,

R. COOPER BAILEY, *Secretary.*

P.S.—We would like to have you come and hear the messages of the National Officials whether you expect to join or not. Please drop me a postal if you expect to attend, so that I may make the necessary preparations; dinner meeting at 6:30 p.m.—cost 85c.

PENNSYLVANIA

(*Continued from page* 19)

to attempt as a unit. Dr. Steinman outlined a few of the achievements, during recent years, of the National and State Societies in safeguarding and uplifting the engineering profession, from its old status of merely being taken for granted as an occupation which any man could claim to practice without rigid or intensive preparation, to a status where both the practice and the prestige of regularly registered engineers would be on the same recognized level as that of lawyers, physicians and clergymen, — a learned profession whose members had qualified themselves through recognized standard methods of preparation.

Dr. Steinman was followed by Engr. Battin of Philadelphia, who dwelt very sensibly upon the importance of cultivating dignified publicity of an educational type and by Engr. Craig of Harrisburg, who referred to the State Convention which the Harrisburg Chapter is now organizing to be held at Hershey on September 25th, 26th and 27th next. With a few brief remarks by several other engineers present, the meeting terminated. Engr. Fred H. Dechant, President of the Reading Chapter of the P. S. P. E. presided at the meeting.

CONNECTICUT

(*Continued from page* 19)

ing factor in establishing the original sections of the American Society of Mechanical Engineers in 1917; in starting the first local Engineers' club in the State in 1922, and in taking an active part in the formation of the Connecticut Society of Professional Engineers in 1934, so it is hard to explain these registration figures in view of Bridgeport's past engineering history. At one time there were over 300 members of the American Society of Mechanical Engineers in the Bridgeport section, not considering engineers of all the other classifications.

"Are engineers leaving Bridgeport? Cannot Bridgeport engineers pass the easy minimum qualifications that will be automatically withdrawn by law on January 1, 1937? Are employers objecting to the engineers that they employ, taking out the registration necessary for them to become legally recognized as engineers.

Deadline Is December 31

"The deadline, December 31, 1936, when the clause in the act permitting easy registration under minimum requirements without examination, is drawing close and after that date cannot be taken advantage of."

William P. Little, president of the Bridgeport Chapter of the Connecticut Society of Professional Engineers, when interviewed, said that it was his opinion that, "the lack of registrations by Bridgeport Professional Engineers is not due to lack of qualification, because Bridgeport has engineers who are second to none. It is undoubtedly due more to neglect in sending in their applications. I know of many Bridgeport engineers who have sent in their applications recently and which undoubtedly are not included in this list and many more who are sending them in before December 31, 1936. I am sure that by January 1, 1937, you will find Bridgeport in the lead in Professional Engineers registration over other communities in the state, and holding its rightful place as the industrial center of Connecticut."

Engineers who possess the necessary qualifications are urged to apply immediately. Do not delay. You may find yourself in the unhappy position of the procrastinators of other states. You must have a license to practice professional engineering.

SOCIETY OUTLINES OBJECTIVES

For and in the interest of the public welfare the Connecticut Society of Professional Engineers is a professional unity of all classifications of engineers, conjoined in active endeavor toward the following objectives:

1. An elevated status for the professional engineer with deserved public prestige and political recognition for the profession.

2. Improvement in modes of engaging engineering services.

3. Limitation of the designation "Engineer" to those rightfully entitled to use it and prevention of the performance of engineering duties by other than qualified engineers, in either public or private works.

4. Assistance of engineers in need.

5. The election of engineers to public office.

6. Promotion of participation of professional engineers in matters of national, state, and local importance and cooperation with national, state, and local governments, officers, commissions, associations, societies, clubs or other groups with the purpose of public service to this country and its citizenry.

7. Political inclusion of the professional engineer in planning development and operation of public projects and national, state and civic engineering works, and in the preparation of legislation pertaining thereto.

8. Better selective methods of admission of students to engineering schools and the elevation of both entrance and graduation requirements.

9. Supplementing the functions of educational, technical, and social engineering groups, societies, associations, or clubs by public, political, legal, welfare, employment and similar activities, designed to raise the economic status of the profession.

10. Full cooperation with all engineering groups and individuals toward professional unity and solidarity throughout the entire profession, regardless of specialty or classification.

11. Uniform and reciprocal improved state registration laws for Professional Engineers.

12. Legislation on behalf of the Profession and organized opposition to any legislative actions tending to deprive the engineer of any of his professional rights.

New Registrants Addressed

The Society has forwarded the following communication to engineers recently admitted to the practice of the profession:

Dear Engineer:

Please accept our congratulations upon your registration by the State of Connecticut as a Professional Engineer, and our cordial invitation to become a member of this Society, for which you are now qualified.

Your registration is recognition of your professional qualifications, representing many years of study, training and experience. This Society is working to protect the value of this investment. It is working to protect Engineers against discrimination, inadequate compensation, restriction of rights of practice, misuse of the designation "Engineer", unethical practices and competition by the incompetent and unqualified. It is working to expand the field for engineering services, to elevate engineering standards and ethics, to have the Profession recognized as second to none by the general public and to secure for the engineer his rightful place politically and in public service. It is doing these things through planned and united action on legislation, law enforcement, civic activity and public education.

Our success in service and practical accomplishment is reflected by our rapid increase in membership. That we were instrumental and successful in drafting and supporting the Registration Act is well known. The many forward steps in Professional Advancement gained by ourselves, our sister State Societies and the NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS during the recent past is unparalleled and outstanding in Enginering History and our direction has been onward and upward during a period when engineering society affairs in general have been retrogressing.

The engineers' Professional Society, as with the Medical and Legal Professions, should have in its membership every registrant in the State, so that he may have a voice in the matters affecting his profession and its practice.

May we urge you to accept our invitation so that you may share in our fraternal cooperation, enthusiastic efforts and successful achievements. Should you be unable to take public or official part in our activities, we shall be glad to welcome you as a voting and sustaining member. One membership entitles you to both Chapter and State membership, affiliate privileges with the other State Societies, yearly subscription to "The American Engineer" and full membership in the NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS.

Application for membership may be made by filling out and signing the enclosed card, mailing it with your check to Carl Gotthardt, Secretary, 20 Coleman Street, Bridgeport, Conn.

Yours very truly,
HARRY E. HARRIS,
President.

The Connecticut Society of Professional Engineers, Inc.

ITEMS OF GENERAL INTEREST

FEDERAL EMERGENCY CONSTRUCTION PROGRAM

(*Continued from page* 18)

Return; 4. Future of the Engineering Profession and the construction industry.

(Regimentation versus Individuality as expressed by the set-up of the various programs above).

It will be necessary that actual facts be used in all statements under the above headings. Needless to say, the Society is interested in learning which of the Federal programs is considered more beneficial to the Professional Engineer.

With each report, a summarized statement should be presented backing up all contentions made. While the report can be as lengthy as necessary, the summary should not exceed 500 words for ready compilation.

In order that no criticism be directed to any individual in expressing opinions in the above report, we request that all employees of any of the above agencies be prohibited from writing any sections of the report.

Program Committee
of the
Second Annual Convention Committee.

AUSTRALIA

(*Continued from page* 18)

five copies of a booklet entitled "Engineers' Registration and Related Problems of the Profession", together with other booklets on this and related topics. Also under separate cover I am mailing you a recent statistical digest of Engineers' Registration in the United States, prepared by Dean P. H. Daggett of Rutgers University; together with a copy of the June 1936 issue of the *American Engineer* containing an article entitled "The Professional Designation" which I believe you will also find of interest.

Supplementing the statistical information contained in the foregoing literature, I might state that the New York State Board of Examiners for Professional Engineers and Land Surveyors, since the enactment of our Registration Law in 1920, has registered or licensed 13,100 Professional Engineers and 4,900 Land Surveyors. During the past few months we have received approximately 3,000 additional applications, principally from Electrical and Mechanical Engineers engaged in industry and research, representing a group of men that in the past have questioned the application of the registration laws to the work in which they are engaged.

The records of the New York State Board reveal that only about 60% of the applications have been successful. This indicates that many of those who have held themselves out in the past as engineers now either realize that they cannot meet the qualification requirements or have already been rejected by the State Boards. This fact helps to explain the discrepancy frequently cited between census enumerations of "engineers" and the number of engineers registered. Registration has proved an effective means of defining and integrating the profession. Other arguments for registration and citations of its necessity and effectiveness are included in the enclosed booklets.

I shall be happy to supply you with additional copies of any of these booklets as you may desire, and to answer any questions that still remain. The Canadian Provinces have carried registration of engineers to a high state of effectiveness. Australia has a wonderful opportunity to start with uniform model registration laws covering the entire Commonwealth, all for the protection of the public and for the advancement of the standards and the standing of the engineering profession. Please feel free to call on me for any assistance I can give you.

Faithfully yours,
D. B. STEINMAN.

LOUISIANA LICENSES CONTRACTORS

(*Continued from page* 18)

that where a corporation is an applicant for a license as general contractor, the Board shall designate the officer of the corporation to stand the examination on behalf of the corporation.

Section 10 gives the Board power to revoke any certificate or license of any general contractor found guilty of any fraud or deceit in obtaining a license or gross negligence, incompetence or misconduct in the conduct of his business. It also provides for the preferment of charges against any person and for proper and formal hearing on such charges.

Section 11 and 12 provide for penalties.

By Section 13 only representatives of the United States, State of Louisiana or any political sub-division thereof are exempt but this section provides that such corporation shall be under the supervision of a licensed architect or engineer.

Section 14 is quite interesting and provides that all architects and engineers preparing plans and specifications for work to be contracted in the State of Louisiana, shall include in their invitation to bidders and their specifications a copy of this Act or such portions thereof as are deemed necessary to convey to

the invited bidder whether he be a resident or non-resident of this State, and whether a license has been issued to him or not, the information that it will be necessary for him to show evidence of license before his bid is considered.

Section 15 provides that no awarding authority or its agents shall issue to other than a licensed general contractor, or his authorized representative, plans or specifications or proposed forms, where these are required.

The remaining Sections 16, 17, 18 and 19 are the usual prosecution, appeal, constitutional and repeal clauses of all enabling acts.

Whether this Act will stand the test is quite interesting. One can readily see that depending on the size of construction, a general contractor may be fit and have sufficient facilities to handle a $100,000. job and yet may not be able to handle a $1,000,000. job. The question will be how can the Board determine the financial limitations of a general contractor? Again, will there be different examinations for different types of contractors. Thus, the examination for a bridge company would be quite different than for a building contractor. Similarly electrical and mechanical equipment contractors would be in other classes.

However, the effort is laudable and, if successful, should be followed by other states.

I do not know whether this is the first state to attempt such a license act but if it is, the State of Louisiana is to be congratulated.

A word of warning should therefore go out to all contractors bidding on work in Louisiana that they make sure that they are properly licensed before any time or money is expended.

Inquiry reveals that the following states have statutes requiring the licensing of general contractors:

Alabama, Arizona, California, Delaware, Florida, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Utah, Virginia.

In addition, the following states have special License provisions incorporated in their laws:

Idaho and Nevada — Public Works Contractors only.

Montana—Public Contractors.

Kentucky—Road Contractors.

Usually the statute provides that it is not necessary for the general contractor to obtain a license where the cost of the job is below a designated maximum. In some of the states the matter of obtaining a license is nothing more than a formality, while in others it is necessary to appear before the State Licensing Body which usually meets regularly twice a year with provisions for such special meetings as are necessary.

The "American Engineer" offers an expression of appreciation to Engineer Sacks.

PROFESSIONAL EDUCATION

FROM REPORT OF PRESIDENT

University of Illinois

Arthur C. Willard, President of the University of Illinois, sets forth some interesting data as a result of an investigation of professional education as carried out in State Universities.

Following are excerpts:

"This paper discusses very briefly certain aspects of professional education in this country at both the graduate and undergraduate level. The unparalleled opportunities for securing the necessary college education precedent to entering upon a professional career create problems which are a matter of great concern to all the professions. Various restrictive or selective devices have been proposed from time to time to meet and control this influx of candidates and to assure competency on the part of those who later qualify for truly professional status.

"As an illustration of a recent comprehensive movement in meeting this situation, the new development sponsored by the Engineering Council for Professional Development to improve the professional status of the engineer through a well integrated program is presented. The interest of the various professional societies in such matters has and will continue to be of the greatest importance in maintaining high professional standards."

* * *

"The field of professional education in this country is not an easy one to define, except in such divisions as law, medicine and theology, in which the graduate degree clearly indicates the field of specialization. There are many other vocational activities, as, for example, teaching and engineering, in which professional status is not so clearly established but for which a formal educational preparation is essential. Such preparation may or may not include graduate courses with appropriate degrees. Hence it seems necessary to limit my discussion to professional education which is continued beyond the baccalaureate degree."

* * *

"In consequence of this growing popular interest in education at all levels, and the unequalled facilities and opportunities for satisfying that interest, the demand for education at the professional and graduate school level is raising many questions, which are complicated in state universities by the fact that public funds are being spent for the personal benefit of a very small percentage of the population. The selection of these individuals is a matter of great importance, since the only justification for spending public funds must always be found in the benefits or services returned to the public. It is not enough to say that the individuals have profited by their educational experience in whatever field of study they have engaged. These individuals must be qualified to render a service to the public in return for the expenditure of public funds, and they must likewise have an opportunity to engage in such service or practice their profession.

"The state university, even more than the private university where the student pays a much larger proportion of the cost of his professional educational experience, has a double responsibility to the student and the public. First, the selection of such students must be made with the greatest care. Ability to profit by such an education, high mental attainments, excellent character, good personality and sound health are the principal criteria. Second, the student should be acquainted with all the facts that may make for success or failure in his chosen professional field. Each profession should provide these facts, extending back over a period of several years, and the schools should lay this information before the student as soon as he has indicated his interest in any given professional field. Thus, by selecting only superior students we protect both the profession and the public, and by informing the student of the social, economic and other conditions which exist in the professional field and which will affect his future status as a member of any professional group, we protect and assist the student in making a better selection of his career.

"I am convinced that we consider too few factors or qualifications in admitting students for graduate or professional study in our state universities. Mental, moral and physical qualities of a high order are necessary and should be demanded of every candidate for professional education. On the other hand, the candidate should know as much as possible about the past and current conditions, as well as future prospects, in the field of his choice before he enters on his professional education.

"I am not in favor of quotas or other similar devices to limit enrolment in state universities, but I am in favor of professional societies keeping in close touch with the professional schools and in rendering advisory services relating to their problems, I am also in favor of the maintenance of the highest educational and ethical standards in selecting students and preparing graduates to enter the various professions. The activities of the American Medical Association and the American Bar Association in the fields of professional education and practice have inspired other professional groups to undertake similar surveys for the purpose of advancing their professional interests and standards of education and practice."

ENGINEERING CO-OPERATION

A Reply to Gen. Hugh Johnson

(Reprint from Press of August 1st)

Engineer Disagrees With Johnson on 'Quoddy'

Editor, The Pittsburgh Press:

General Johnson's column about admitting and correcting errors starts off with an error. He says, "The engineering profession refused to go along." This is not true regarding the Quoddy or any other engineering project.

This writer is a professional engineer and a member of the National Society of Professional Engineers, so he knows that the profession has not "refused to go along" nor taken any other adverse stand on the Administration's engineering projects. The general's personal animosity for Hopkins and Tugwell, which it seems have developed to a form of madness, causes him to imagine things.

MAJOR B.

COOPERATION BETWEEN PROFESSIONAL AND OPERATING ENGINEERS

By

D. B. STEINMAN

There is no quarrel between Professional Engineers and the Operating group. Both should join forces in mutual cooperation, with sincere effort by each group to understand the problems and aspirations of the other.

The campaign of the Engineering Profession to restrict and protect the designation "Engineer" is not directed or aimed at those who are honestly called "Engineers" because they operate locomotives, marine, or stationary engines.

It is too bad that we have this confusing and conflicting double meaning of the term "Engineers," but the avenue to ultimate correction is by education and cooperative adjustment, not by legislation. There is no legislative conflict.

Our legislative steps for the protection of our professional designation are aimed and directed at those others who misappropriate or misuse the appellation "Engineer" in such manner as to mislead the public, degrade the designation, or injure the good name and standing of our Profession. We do not want men without professional qualifications to style themselves "Consulting Engineers," "Electrical Engineers," "Mechanical Engineers," "Sanitary Engineers" or the like. (The term "Power Engineer" belongs in this category, because that is also an established designation of professional men.) And we do not want to see anyone display such hybrid designations as "Lawnmower Engineers," "Matrimonial Engineers," "Domestic Engineers," and "Exterminating Engineers," for such appellations degrade the title "Engineer" and expose it to ridicule. For these reasons we have written clauses into our Registration Laws to protect the title "Engineer" against such misappropriation and misuse. These laws restrict the unlicensed application of the title "Engineer" when used in the Professional or non-operating sense. This legislation is not aimed at those who honestly use the designation "Engineer" in the Operating or non-professional sense, as "Operating Engineers" or "Stationary Engineers," for such titles do not mislead or confuse.

A delegation of past and present officers of a large representative organization of Operating Engineers called on me on June 30th for a conference on this subject. Our mutual problems were sympathetically discussed and a basis for harmonious cooperation was reached. It was mutually agreed that the Operating group would restrict their designation to "Operating Engineers," so as clearly to show that the term was not used in the Professional sense; and that both groups would cooperate on future legislation so as to join forces in eliminating the unlicensed misappropriation and misuse of the designation "Engineer" by those who have neither the Professional nor the Operating qualifications. As soon as this agreement is confirmed by both groups, it will become effective as a basis of mutual cooperation.

IS WASHINGTON SLIGHTING THE ENGINEER

From the Baltimore Engineer, Sept. 1936

Engineers often ascend Fame's ladder so rapidly as soon to reach officialdom whence engineering identity is lost in that of President or other commanding title. Thus the familiar name of a president of a railroad, utility or other corporation may have achieved distinction first as engineer and the public be unfamiliar with this earlier record. His superior imagination, judgment and leadership combined with engineering carried him naturally to the top.

But in Government occupations the engineer has natural limitations for, because of engineering training he sees more sacrificed through political expediency than almost any other training would discover.

One engineer was the exception, for as Secretary of Commerce he sat in a President's Cabinet with political restraints on every hand, so must have exercised hypnotic sway over his chief executive, for he expanded his department several times over during a single term of office.

As a Cabinet chief he, somehow, escaped the political harassments which damned him later, for obtuseness to political give-and-take, probably explains more than anything else his helplessness with Congress while President.

In the very nature of things engineers are always chosen to design and supervise Public Works, but with engineering education and culture becoming more and more generalized, is it not a wonder that an engineer with proven leadership is not chosen as director in chief of some bureau of the Federal Government; such, for instance, as that occupied by Harry Hopkins who administers all of the billions distributed for Public Works?

The President knowing the orderliness of engineering thinking, probably never once thought of an engineer for this post which was to require so much radical action.

No matter how improvident the engineer in his personal affairs, when it comes to changing the face of nature through lavish expenditure, he may be expected to proceed with too much caution to suit the Brain Trust who conceived the extraordinary relief bills enacted by Congress.

To them he is over cautious or just dumb.

EDITORIAL

From The Operating Engineer, July-August, 1936

We are proud to be the first to announce the proposed harmonious agreement with the National Society of Professional Engineers to recognize the *Operating Engineer* and to cooperate in the enactment of state license laws. The fight between the power plant engineer and the professional engineer *is ended,*—we hope.

As an indication of our complete agreement and as proof of our sincerity, the name of this little publication is changed to *"The Operating Engineer."* The *"Power Engineer"* is dead. Long live *"The Operating Engineer."* However, we look back upon the *"Power Engineer"* with great reverence. We feel that it has accomplished something to be proud of in bringing the professional and operating engineers together upon the solid ground of mutual understanding and of common purpose.

However, as this publication has no official connection with any engineering organization, we are only able to make suggestions and recommendations to all existing organizations and unaffiliated engineers. We believe the designation "Operating Engineer" is absolutely correct from every standpoint and truly represents the branch of the engineering profession engaged in the operation of power plants.

The International Union of Operating Engineers already uses the designation "Operating Engineer." We suggest that the different state and international officers of the union write to D. B. Steinman, President, National Society of Professional Engineers, 117 Liberty Street, New York City, and accept their recognition of the name "Operating Engineer." As Mr. Steinman has gone on record publicly through this publication it is only fair that the operating engineers' organization meet him half way.

As we have stated in previous editorials, it is *silly* and *ridiculous* for the professional engineers and the operating engineers to be fighting over the dictionary definition of the word "engineer." Much more can be gained by harmonious effort and a united front for the enactment of state license laws for the protection of both divisions of the engineering profession and the safety of the general public.

We suggest and recommend that every engineering organization, that is especially interested in the enactment of license laws, write to Mr. Steinman, accepting and confirming the designation of "Operating Engineer." As there is no one organization representing the operating engineer, we strongly urge every organization to write Mr. Steinman and thus, by weight of numbers and consensus of opinion, the right of the power plant man to the designation and classification of "Operating Engineer" will be firmly established.

Now, the operating engineers can devote every effort to the enactment of state license laws. With no further opposition within the ranks of the engineering profession, and with the harmonious cooperation of the National Society of Professional Engineers, state license laws should be enacted in every state at the first opportunity.

As first evidence of a united front, we suggest that the National Society of Professional Engineers cooperate with the National Association of Power Engineers and other operating engineers and organizations in *Ohio* in *upholding the Stationary Engineers' License Law* which is now being attacked in the courts by the greenhouse association. If this law is declared unconstitutional, it might also be possible to attack the professional engineers' registration laws. The strength of one depends largely upon the other. If the greenhouse owners of *Ohio* can have this law thrown out so that they can hire cheap labor and operate their plants with unlicensed firemen, *what will happen to the Professional Engineers' Laws* when the building owners, large manufacturers' associations, etc., decide to attack the professional engineers' license laws so that they can employ unqualified consulting service at lower prices?

There is a question worth pondering over, Mr. Steinman. Your help and cooperation in the enactment and upholding of operating engineers' state license laws will make your own legislation that much stronger.

From *now* on, this little publication is dedicated to the interests of the Operating Engineer, the Enactment of State License Laws and the Recognition of the Name "Operating Engineer." More *power* to the Operating Engineer.

QUERY FOR EVERYBODY

From the New York Times of September 13, 1936

Three centuries of science and civilization have been passing in review before the élite of the learned world at the Harvard tercentenary festival. The deliberations of the scholars are troubled by the same agonizing doubts and fears that weigh down on the hearts of plain men everywhere. What will science do for civilization? How can the modern world escape destruction by its own technology?

The question has special poignancy for the men who are themselves responsible for the resounding triumphs of science. People think of them also as responsible for a world in which little children drill in gas masks and the populations of great cities have intensive training in hiding in cellars. These men meet to discuss their new victories over the cosmos and the atom. They look confidently into a future where nothing can apparently be denied to the soaring mind and will of man; except, as it seems now, the control over his own evil passions. And these may end by undoing all the victories of science from Galileo to Planck and Einstein.

Heart and Tool

Yet it does seem at times as if the men of science, along with the rest of the world, are a little too ready to be frightened by technology. Another way would be to say they put too much blame on the machine and not enough on the wicked human heart. When people say that man is in danger of being destroyed by his own machines, the implication would be that if he had no machines this would be a sweeter and more peaceful world. Man was made upright, but he has sought out many inventions. Yet it is altogether likely that Ecclesiastes was not thinking of machines, but of the evil heart that always finds a tool for its wickedness.

Pre-technological man has shown in the course of history that he can do very well in the way of slaughter and destruction. One of the most convincing chapters in this demonstration was staged in the very years when Harvard was founded, in the first half of the seventeenth century.

Thirty Years' War

The seventeenth century was the glorious morning of modern science. It was also the century of the Thirty Years' War, climax and finale of nearly a hundred years of murderous conflict in Europe, religious and dynastic. The seventeenth century was the age of Galileo, Kepler, Harvey, Locke, Leibnitz and Newton. Kepler died six years before the founding of Harvard College, and Galileo six years after. In the year of Galileo's death Newton was born. If we look beyond the boundaries of science, this seventeenth century was the age of John Milton, Moliere and Rembrandt; and Sir Isaac Newton had more than forty years of life ahead of him when J. S. Bach was born.

It is no mean epoch in the history of civilization and the human mind, this seventeenth century. But its record also includes a war which lasted almost a generation and which piled up a tale of havoc and horror that throws into the shade even the holocausts of our own World War, if we make allowance for the smaller Europe of that day.

The Dire Record

The Thirty Years' War was fought on German Soil by the contending armies of many States and princes. When it was over, there had disappeared one-half of the population of the German lands. In the kingdom of Bohemia two-thirds of the people perished. In some of the western border regions the mortality rose to three-fourths and more.

"There was marauding, there was starvation, there was even cannibalism," writes H. A. L. Fisher in his history of Europe. "At the beginning of the sixteenth century Germany stood in the forefront of civilization. By the end of the Thirty Years' War (1648) the country was barren of literature and art, burdened by an almost unmanageable language and in its social manners and customs had shrunk to a Moscovite barbarity."

Any Tool Suffices

Such a record of blood lust and bestiality by European man was compatible and contemporaneous with the rise of the scientific mind of Europe in full splendor. It is small comfort, to be sure, and no apologia, for an Einsteinian world in which ten million men were killed that in the Newtonian world there was even greater savagery and destruction. But that is not the point to be stressed.

The subject of interest for the moment is that the Thirty Years' War was a pre-technological war. To be sure they already had gunpowder, and the famous Gustavus Adolphus owed his splendid victories to a masterly use of a comparatively new weapon, artillery. But it was not the efficiency of the war weapons of the time that laid Germany waste, but the shattering cruelty of man. It was the tramp of the marching armies back and forth over the face of Germany for the space of thirty years, the plunderings and the burnings, plague and famine. These things took such dreadful toll—without technology.

Blaming it on the machine is not a valid "out." If men want peace they can have peace with death rays. If they want to kill they can slay with pikes and bows and arrows.

A RENDEZVOUS WITH DESTINY

(*Continued from page* 10)

the further economic liquidation of farmers in the United States and Canada.

This forcing is a providential blessing, for it simultaneously compels the introduction on a commercial scale of agrotechnology, by which man for the first time in his history will no longer be dependent upon the fertility of soil and the vagaries of the weather. Technocracy wishes to express its thanks for this providential aid.

It would like to point out that no human being ever acquired social prestige following the plow.

The Faraday Fluid Feeding Process will provide no place for the plow or the harrow, the sickle or the hoe, the cultivator or the combine. It is a process whereby chemical plant food, dissolved in water, feeds the roots descending through a seed bed of tar-treated excelsior, stationary or on a travelling belt. A maximum of biologic growth is attained—a maximum undreamed of by the tillers of the soil—and a growth so fast that even the bugs have but a slight chance. This agrotechnology does not require cultivation; neither are there any weeds. Agricultural child labor won't be a basic requirement of the small farmer.

The Faraday Fluid Feeding Process grows Burley tobacco 13 feet high, 2,500 to 3000 bushels of potatoes per acre of surface, and tomato vines 35 feet high with a tremendous increase in yield.

This agrotechnology will solve the food problem of any area that can convert sufficient extraneous energy and has the requisite water and mineral resources for the plant food of the particular agrotypes necessary for its food consumption. Farming and farmers are the last great upholders of human toil. Agrotechnology as it advances will consign them to oblivion.

In the face of these progressions on the Continent of North America, every political platform, every political gesture is but an expression of national idiocy. For the issues of this country and this Continent will not be met by any politicial party, radical or conservative, liberal or reactionary. Both autocracy and democracy are defunct, and will go out with the human toil of the ages of scarcity.

President Roosevelt, in his acceptance speech at Philadelphia, made only one significant statement. His other statements were irrelevant, incompetent, and immaterial. That statement was, "This generation of Americans has a rendezvous with destiny."

This Continent has a rendezvous with destiny and in that destiny lies the future of civilization. That destiny will not tolerate the politician and poverty, the economic pestilence of this Price System.

This Continent has no choice but to lead the march of civilization. The opportunity is given to no other Continent. The twentieth century belongs to North America. This Continent's destiny, its task, is the elimination of human toil and the installation of security and abundance. This Continent will have its rendezvous with destiny within the next decade, and upon this generation of Americans will fall the competent and orderly achievement of a new civilization. This generation of Americans has the technology, the men, the materials, and the machinery for its accomplishment.

ANNUAL
CONVENTION
October 12-13, 1936
Washington, D. C.

All Engineers Urged to Attend
Make This a
Fall Vacation Trip to
Nation's Capital

A NATIONAL PROBLEM

(*Continued from page 7*)

plan and direction of great projects which are fundamentally of an engineering nature.

The engineer, once the legal and financial problems have been decided and the limitations of a program determined and agreed upon, should be granted that control and authority which are ordinarily placed in the hands of those with whom great responsibility rests. The program under discussion is the greatest human undertaking in history and there should be neither political nor social obstacles or impediments placed in the way of accomplishment. Let society be ruthless if it will in its judgment, but let it also justify that judgment by placing engineering projects under the control of engineers. Responsibility without authority creates an anomalous condition and prevents accomplishment.

The Engineer likewise has an obligation which he must become more familiar with and be more willing to accept. He has created modern civilization, he must help to preserve it. This he can do by bringing to the attention of mankind two important factors for the maintenance of society. First, that the creator of civilization is inseparable from its proper and adequate protection and maintenance; secondly, that the great problem of society is to reconcile a changing civilization with an unchanging human nature. The engineer must awaken from his unsocial attitude and arouse the nation to an appreciation of the folly of eliminating the engineer from participation in the administration of the social and economic affairs of the nation if widespread employment, conservation of resources and creation of additional wealth are to be the benefits and bequests of this generation.

In conclusion, the writer offers these thoughts, not for the glorification of the engineer but rather in the interest of the American people and in the hope that human knowledge and unselfish endeavor may, with Divine approval and guidance, succeed in restraining the devastating forces of nature and thereby serve and protect this great republic which, with all its shortcomings, still affords to mankind that opportunity and protection which are without parallel in the chronicles of recorded time.

REGISTRATION OF ENGINEERS

(*Continued from page 6*)

quired. In New York State, with a staff of 8 investigators now assigned to the engineers' law, hundreds of reported violations are investigated and corrected annually, without publicity. From the viewpoint of enforcement, our registration laws were initially weak but are being progressively strengthened. Enforcement is as stringent as the profession in any state is ready to make it.

Even at the exaggerated figures estimated by Mr. Berresford, the cost of registration is small per individual. It is vanishingly small in proportion to the benefits secured. For the average engineer, the total cost of registration *in a lifetime* will rarely exceed $50; this is but one per cent of the average individual investment in professional education and it is less than 1/20 of one per cent of the average total professional income thereby protected and enhanced. The lifetime cost of registration, to the individual, is but a fraction (about 1/10) of the lifetime cost of membership in a national technical society, and the same ratio will obtain upon application of Mr. Berresford's procedure of multiplying the cost by the number of individuals.

For a few engineers, registration in more than one state may be required; but the relative number of such cases is almost negligible, and the individuals enjoying such interstate practice generally enjoy incomes that make the trifling cost of registration fade into insignificance. The extent of multiple licensing is generally exaggerated. As registration becomes universal and uniform, this slight extra cost will be eliminated.

Any method of registration, certification, or admission must be handled by boards composed of individuals. This holds true for the other leading professions, with boards of examiners similarly appointed. The appointments are made by the board of regents or by the governor of the state upon nominations made by the respective professions. These are not "political" appointments. The highest standards have been maintained and will be maintained. In some states there is no compensation for the time and services of the board members, and in the other states a "compensation" of $5 or $10 per day of arduous work for eminent consulting engineers whose time is worth $150 to $300 a day is not a temptation for political manipulation. Only men who are sincerely devoted to the profession and its standard will accept such appointment. It is a position of honor and trust, and in that spirit its responsibilities are respected. In generations of examinations of candidates, there has been no retrogression of standards in the legal and medical professions, and there is even less reason to expect a lowering or betrayal of standards by the trusted representatives of the engineering profession.

Mr. Berresford is wrong in his interpretation of certain phrases in the registration laws. The requirement of "experience in engineering work" must not be confused with "professional practice." The former is subprofessional and refers to apprenticeship, as a subordinate or employee, permitted and required prior to registration. The other is of professional status and requires registration. A record of "*lawful* professional practice" (in another state, or prior to enactment of the registration law) may be accepted as partial evidence of qualification.

The standards set up in the model law and in the individual state laws qualifying for the title of "engineer" *have* been evolved by the profession. If any professional group has had no part in this, it is because such group has failed to co-operate with the rest of the profession. The standard written into the model law and into a majority of the state laws is *higher* than the standards for admission to corporate membership in most of the national technical societies, and this higher standard has since been adopted by the Engineers' Council for Professional Development as its recommended "minimum definition of an engineer." The missing factor in membership requirements is evidence of professional education, by graduation or examination. Until engineering societies honestly apply such educational tests as are specified in the formally adopted "minimum definition," they cannot consistently claim that all their members are engineers. Until engineering societies require professional registration as a prerequisite for membership, they cannot legally and publicly claim that all their members are engineers. The medical and bar associations would regard it as unthinkable to admit to membership any individuals who have not been legally admitted to the respective professions.

I admit that there are imperfections in our present registration laws. These are being corrected (but not along the weakening lines suggested by Mr. Berresford) as rapidly as possible. The present defects are in large measure due to the lack of united action by the profession in a state and by the necessity for compromise in the face of fractional ignorance, selfishness, or prejudice. Certain national and local engineering societies have retarded the registration movement by secret or open antagonism, based on misunderstanding. That is why state societies of professional engineers are being formed and a National Society of Professional Engineers has been organized. Registration is now in force in 35 states. It is an established fact, and its further progress will be forward, not backward. Any fractional opposition will be regarded as antiprofessional, and will only strengthen the need for organizing and integrating the profession to protect and advance the registration movement.

WHAT IS PLANNING?

(*Continued from page 11*)

or dope peddlers are supposed to be guided by "plans".

Planning as often misused, means a scheme mainly to provide employment or enlargement of existing government departments without much thought of real or lasting benefit to the Country.

It is time that every newspaper man in the United States should learn the difference between the real meaning and definition of engineering PLANNING and its vulgar idiom.

The President evidently has.

It is way past the time that Engineers should serve in public office in the government, federal, state and local. The country needs their trained, conservative knowledge and practice in its affairs, just as much as the large private transportation factors, industrial organizations, intercommunicating systems, etc., which could not exist without their "Planning".

Public recognition of the Engineering Profession and the political advancement of the qualified engineer to those positions that cannot properly and should not be filled by non-engineers are two things that are growing with the activities of the Societies of Professional Engineers and must be heartily supported by the profession throughout the country.

HUGH A. KELLY

... Civil Engineer ...

921 BERGEN AVENUE

JERSEY CITY, N. J.

D. B. STEINMAN

CONSULTING
ENGINEER

●

BRIDGES

Design *Construction*
Strengthening *Investigations*
Advisory Service *Reports*

●

117 LIBERTY STREET
NEW YORK CITY

VESPER A. SCHLENKER

Consulting Engineer

SOUND PROOFING
NOISE ABATEMENT
VIBRATION CONTROL
SILENCING OF EXHAUSTS
ARCHITECTURAL ACOUSTICS
ELECTRO-ACOUSTIC SYSTEMS

SURVEYS SPECIFICATIONS
ANALYSES ORIGINAL DESIGN
MEASUREMENTS COURT TESTIMONY

GRAYBAR BUILDING, NEW YORK CITY

FREDERICK T. HICKS

REGISTERED
PATENT ATTORNEY

REGISTERED
INDUSTRIAL ENGINEER

EX-MEMBER OF EXAMINING STAFF
OF THE UNITED STATES PATENT OFFICE

1541 NICHOLAS BUILDING
TOLEDO - - - - OHIO

408 PENOBSCOT BLDG.
DETROIT - - MICHIGAN

PLEASE NOTE: Attention—Engineers in Private Practice

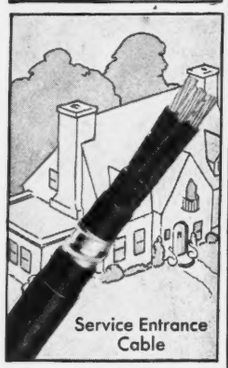
"The American Engineer" is setting a precedent in Professional Directory.

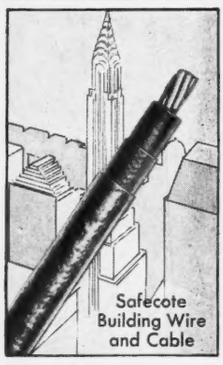
In keeping with the spirit and principles of the National Society of Professional Engineers we are building a Professional Directory for Licensed Professional Engineers and Licensed Land Surveyors.

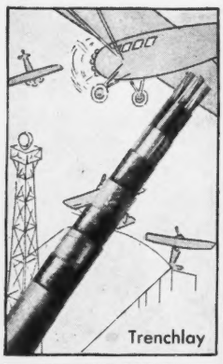
This is the only Directory in which a License is compulsory. Every member in private practice should cooperate in making this Directory both comprehensive, representative and useful. Will you? The cost is small. Send your listing to G. C. Carothers, Advertising Manager, 441 Lexington Avenue, N. Y. C.

For the Active Needs of ENGINEERED ELECTRICAL INSTALLATIONS

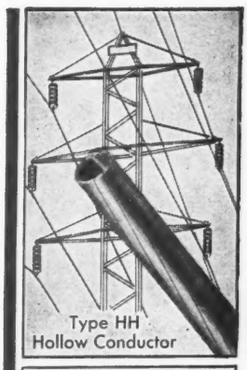
Type H Cable

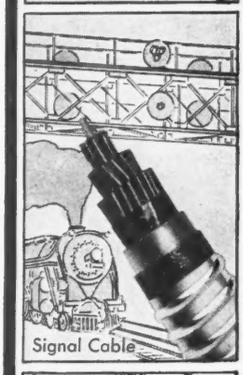

Service Entrance Cable


Safecote Building Wire and Cable

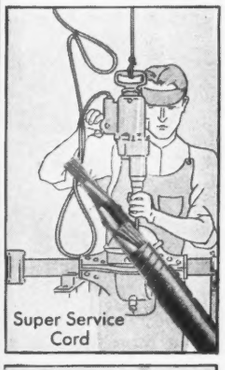

Trenchlay

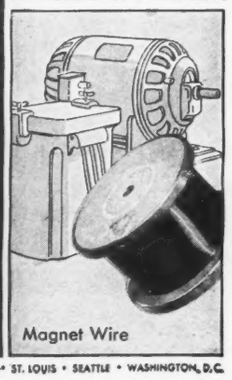
Varnished Cambric Cable


Type HH Hollow Conductor


Signal Cable

Oil-Filled Submarine Cable


Super Service Cord


Magnet Wire

Through its sales offices, plants and distributors' warehouses General Cable brings to the needs of the architect and engineer a complete service. Wires and cables for every electrical purpose—utility, industrial and domestic. Each in its present standard specification embodies the ultimate technical advance resulting from scientific research. Write us for literature on any General Cable product in which you are interested.

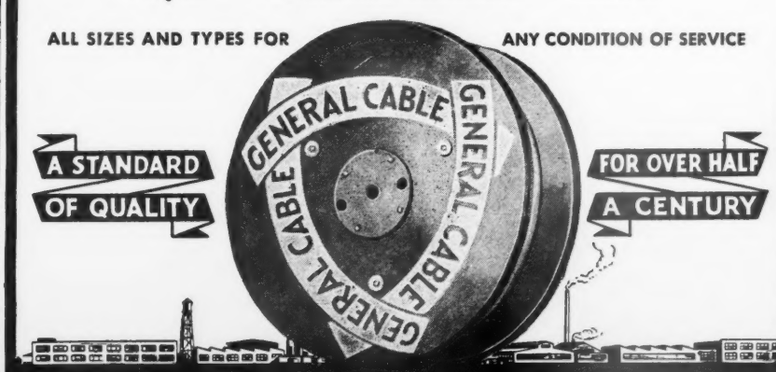
Specify and demand these quality products

●

BARE AND INSULATED CONDUCTORS FOR TRANSMISSION AND DISTRIBUTION

Paper • Varnished Cambric • Rubber

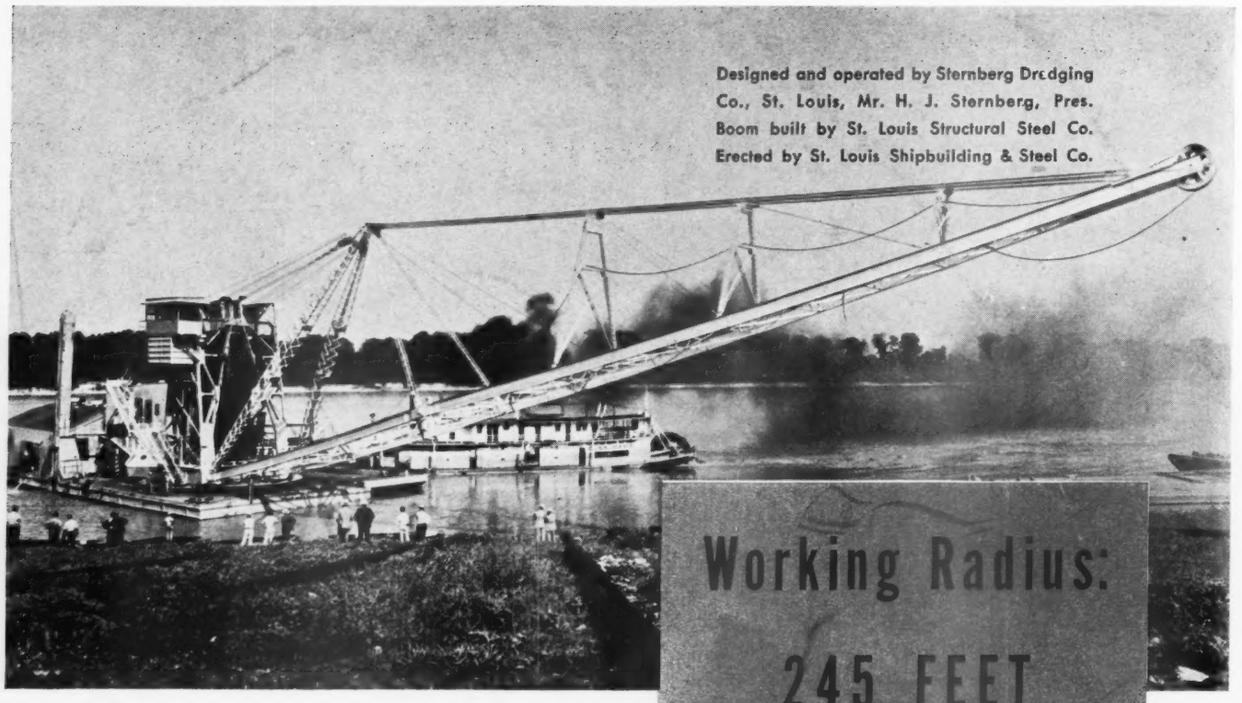
ALL SIZES AND TYPES FOR ANY CONDITION OF SERVICE



GENERAL CABLE CORPORATION

Executive Offices: 420 LEXINGTON AVE., NEW YORK

Sales Offices: ATLANTA • BOSTON • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEW YORK • PHILADELPHIA • PITTSBURGH • ROME • SAN FRANCISCO • ST. LOUIS • SEATTLE • WASHINGTON, D.C.



Designed and operated by Sternberg Dredging Co., St. Louis, Mr. H. J. Sternberg, Pres.
Boom built by St. Louis Structural Steel Co.
Erected by St. Louis Shipbuilding & Steel Co.

Working Radius: 245 FEET thanks to ALCOA ALUMINUM

The clamshell bucket at the end of this boom has a rated capacity of 6 cubic yards. Heaped capacity, 10 cubic yards.

This combination of tremendous reach and capacity without excessive listing of the dredge hull, is made possible by constructing the outer 150 feet of the boom from lightweight Alcoa Aluminum alloy shapes and plate.

No boom of so great a length has ever been built before. The design will be recognized as new, also. If Alcoa Aluminum had not been used, the boom would have been shortened to 210 feet for the same bucket capacity. Or, bucket capacity would have to be reduced to 4 cubic feet for the same length boom.

Alcoa Aluminum, therefore, increased dredge output by 50%.

This is a pat example of what Alcoa Aluminum can do for all kinds of dirt-moving equipment. It saves dead weight, and increases working radii or bucket capacity, or both.

The day of needless weight is done.

Ask for one of our engineers to give you the case histories of all sizes and types of excavating equipment utilizing Alcoa Aluminum to move more dirt in less time. We build no equipment, but our full co-operation is at the command of you and your builder. ALUMINUM COMPANY OF AMERICA, 2112 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA ALUMINUM